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JULY 19, 1941

Railway Age

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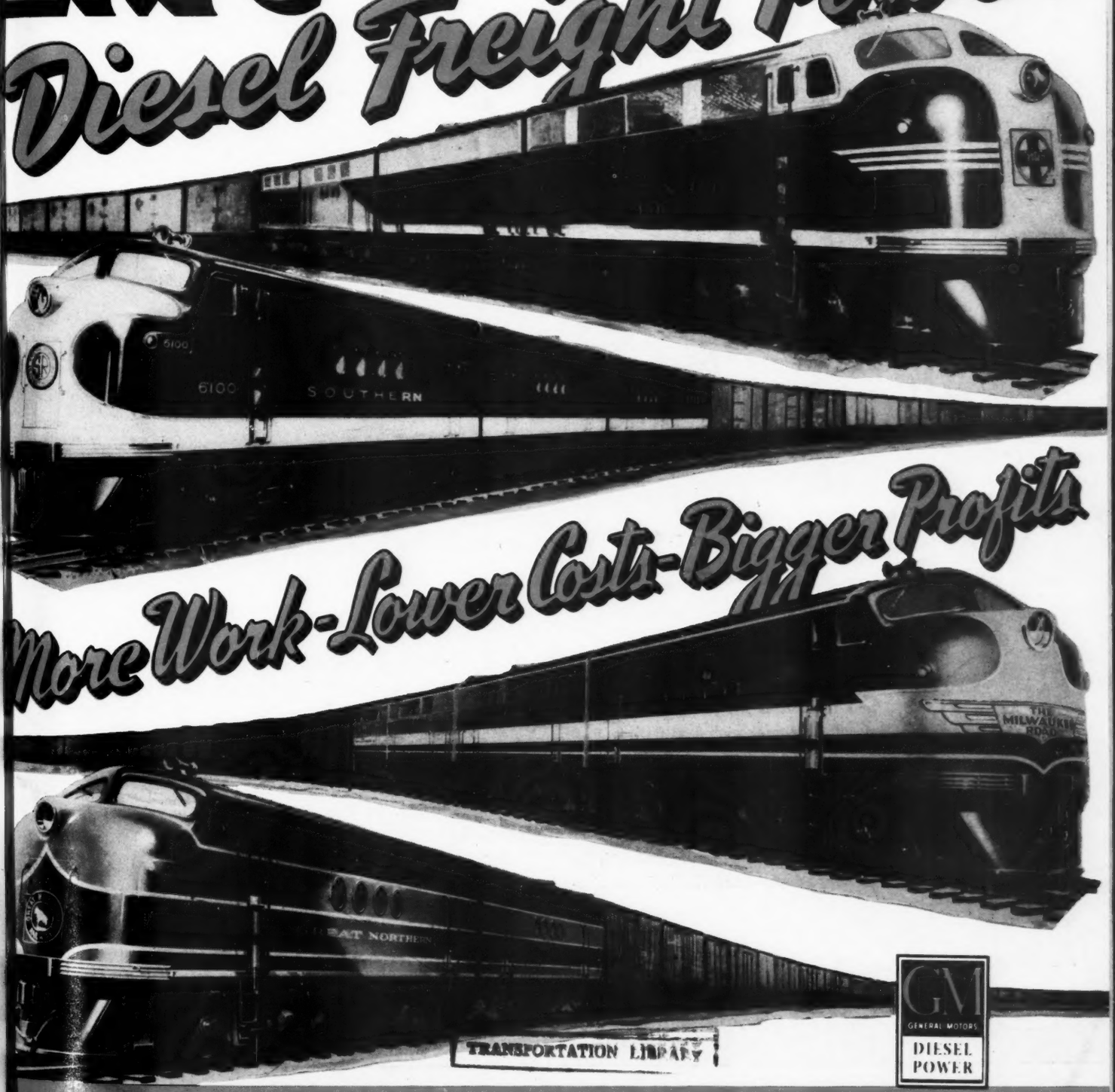

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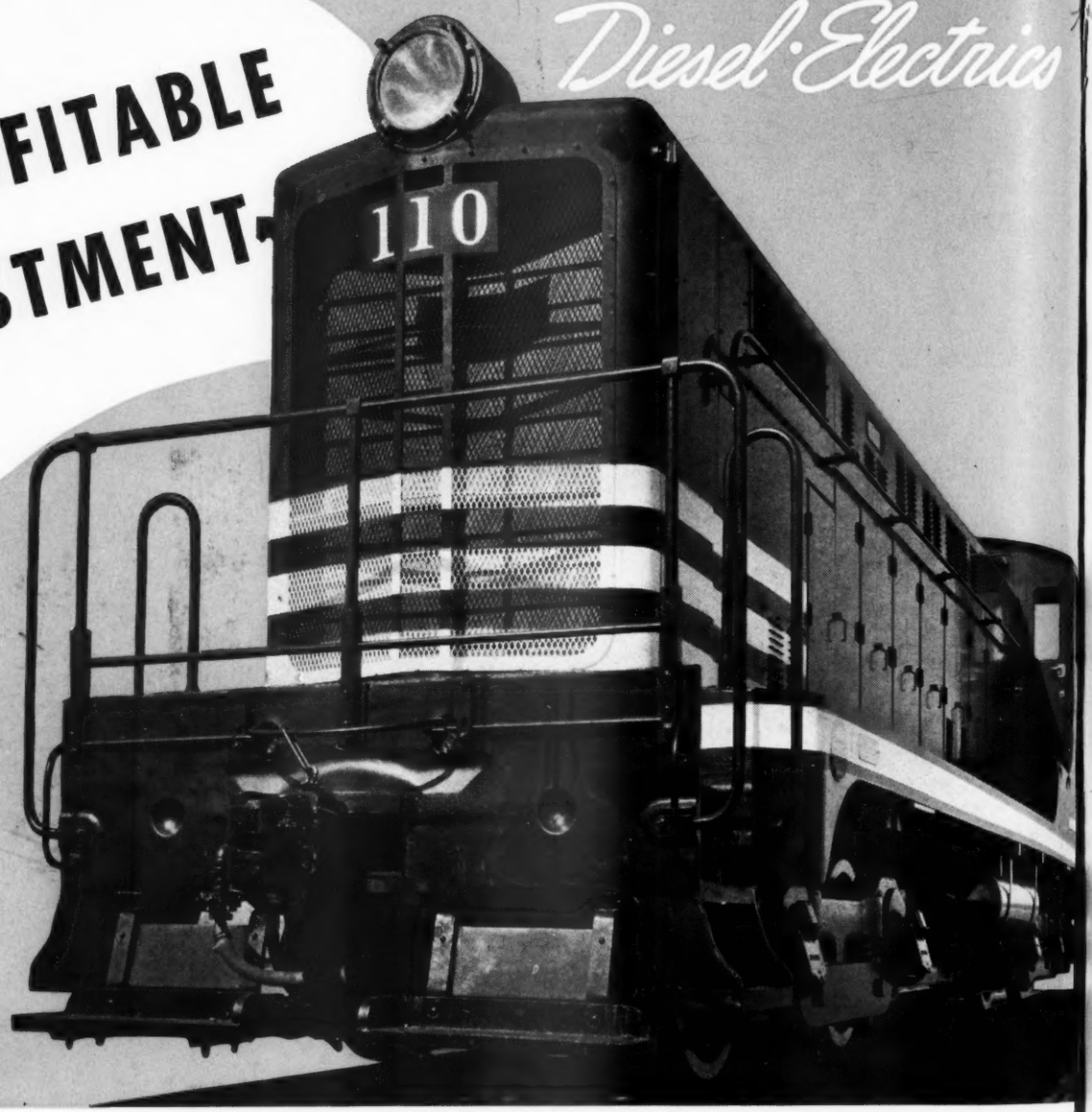

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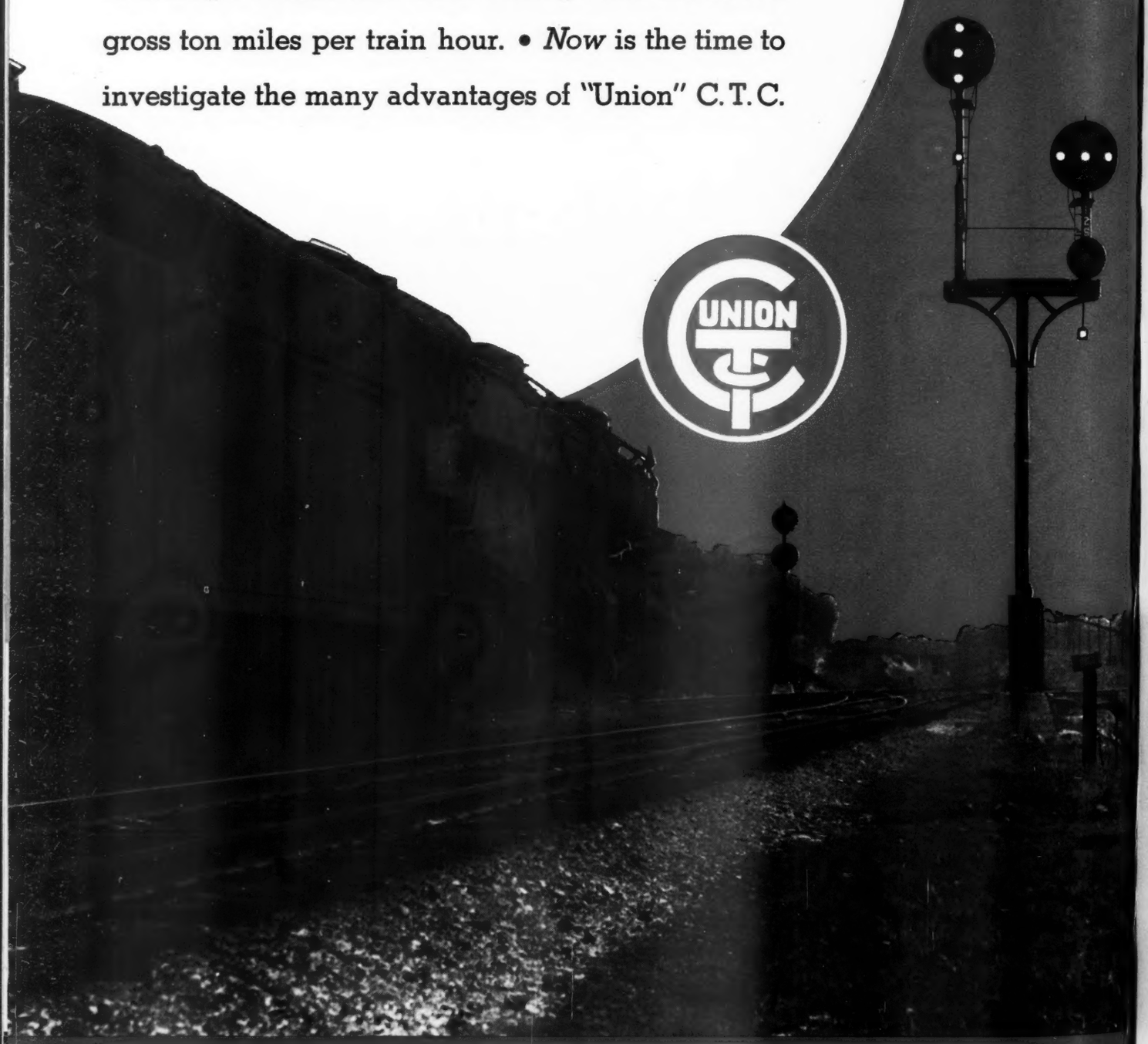

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RAILWAY AGE

Demands of Labor Unions Versus Demands for Railway Service

No other generation of railway executives ever had presented to it as tough a problem as the one now confronting the present generation. Their problem was tough enough before; but it has been made much tougher by the sudden great increase of traffic and the huge demands of the labor unions.

From the depression of the 'Seventies to the depression of the 'Nineties, and from then to 1906, the railroad problem was simply that of building new lines, expanding old lines, and improving methods of operation, in order to handle an ever rapidly increasing traffic that provided ample increased earnings to absorb increases in costs. From 1906 to the beginning of the first World War the problem was complicated by new government regulation which, by restricting rates and earnings, made it more difficult to provide means of handling the still rapidly increasing traffic; but traffic, and consequently gross earnings, were still rapidly increasing; and management succeeded, in spite of regulation, in continuing almost enough increase of net earnings to provide sufficient capacity.

How Government Operation Complicated Railway Problem

The effects of the war; of government operation in 1918 and 1919, and of their aftermath in 1920 were further seriously complicating factors. Expenses became in 1919 under government operation over 2 billion dollars more than in 1916 under private operation, while gross earnings increased only 1½ billion, with the result that net operating income declined from over a billion dollars in 1916 to less than a half-billion in 1919. After the restoration of private operation, on March 1, 1920, there were in that year advances in wages ordered by the Railroad Labor Board and advances in rates authorized by the Interstate Commerce Commission, with the result that in 1920 operating expenses were 3½ billion more than in 1916, gross earnings only 2½ billion more and net operating income over a billion **less**—or actually but 17 million dollars. However, the railways had government guarantees of net return throughout the first two-thirds of 1920.

In 1921, the first full year of private operation after government operation, gross earnings were almost 2 billion dollars larger than in 1916, and the number of employees was reduced to 400,000 less than in 1920, or to about the same number as in 1916. But the payroll was 90 per cent more, or 1½ billion dollars greater, than in 1916; total operating expenses were 2 billion 200 million more; taxes were 118 million more; the ratio of operating expenses, rentals and taxes to gross earnings was up from 71 per cent in 1916 to 89 per cent in 1921; while net operating income was down from more than a billion in 1916 to 601 million in 1921.

Further Complication by Socialist-Labor Administration

The ratio of outgo to income was subsequently reduced; but by government operation it had been made permanently higher than before the war, leaving railway managers confronted permanently with a reduced margin of profit which could be wiped out by a relatively much smaller decline of business or increase of expenses and taxes than the margin they had before the war. It took them until 1925 to increase net operating income to the level it had reached nine years before, in 1916; and meantime they had begun to be confronted with another complication of their problem—a great increase of competition, principally due to government-favoring of carriers by water, highway and air. Then they were hit by the worst depression in history, which between 1929 and 1932 reduced gross earnings almost one-half, or 3 billion dollars a year, and reduced net operating income 74 per cent. And after recovery in general and on the railroads in particular had got well under way, they were subjected, beginning in the second quarter of 1933, to the policies of a socialist-labor administration which prevented recovery for seven years, has twice effectively used its influence for advances in railway wages not warranted under depression conditions, and has kept railway management in constant fear that anything it might do that was displeasing to the administration would result again in adoption of government operation, which this time probably would be permanent.

Management Between Devil of Traffic Demands and Deep Sea of Labor Demands

Thus the present generation of railway executives, as compared with all generations before 1906, has a problem complicated by (1) government regulations; (2) reduction in the margin of profit as a heritage from government operation; (3) government-aided competi-

tion; (4) a great decline in the amount of equipment during the depression years due to lack of net earnings with which to buy it caused by lack of gross earnings and unwarranted advances in costs; (5) a tremendous increase of traffic—due largely to government expenditures for defense—that has come faster than it has been humanly possible to increase the amount of equipment available; (6) a socialist-labor government which, it is suspected, would welcome any failure of service that would afford an excuse for seizing the railways; and (7) huge demands by the labor unions granting of which, without a large advance in rates, would destroy the earning power essential to enabling the railways to buy the equipment and materials required to render the service being demanded of them.

We doubt if ever in history the management of any great industry was confronted with a problem made so delicate and difficult by so many important complicating factors. Railway management is caught between the devil and the deep sea—the devil of demands for service, on the one hand, and the deep blue sea of threatened labor trouble, on the other hand. Management heretofore has estimated that peak carloadings in the fall of 1941 would be less than 950,000 weekly; but the *Railway Age* constantly has predicted that the demand would reach a million or more a week; and now it appears certain that our estimate will be vindicated and that only much more efficient utilization of equipment than ever has been attained will prevent shortages next fall that will draw criticism from New Dealers desiring government operation—who, no doubt, would criticize anyway.

Private Ownership Must Be Self-Supporting

This larger-than-estimated increase of traffic in 1941 indicates that, if the World War continues, the railways will need all the new equipment they and the manufacturers can produce the rest of this year and in 1942 and 1943. But when we consider what they must do to evade the devil of equipment shortage we foresee them running close or into the deep blue sea of labor troubles, which would be even worse for service. How can they hope to have the wherewithal to pay for enough equipment and materials, and to pay a large increase in their labor costs and taxes, too? There is no way to make the same dollar do a dollar's worth of work in two entirely different ways at the same time.

As mentioned in these columns last week, President Robertson of the Brotherhood of Locomotive Firemen and Enginemen contends the railways should comply with the demands of the unions for big increases in their payroll and payroll taxes, and ask the government to buy equipment needed for handling defense traffic. There is one objection to that policy which is unanswerable—viz, that private ownership and management cannot long be maintained, or even be kept worth maintaining, if under it the railways cannot make enough net earnings to provide sufficient facilities for handling all the traffic offered to them. The provision of facilities by government because the railways could not make enough net earnings to provide them **even when they were making large gross earnings** would show they had become unable to make enough to provide them at any time. And, obviously, if they aren't going to have enough net earnings to enable them to provide needed facilities, they aren't going to have enough to pay dividends to their stockholders, or perhaps even interest to their bondholders. In that case, how are they going to maintain private ownership?

Simultaneous Declines of Income and Facilities

And to whom would the maintenance of the shadow of private ownership without the substance of it be worth anything? Certainly not to stockholders who would get no dividends, or to bondholders who would get no interest. To employees or the public, perhaps? But have the managers of a private industry any duty or right, without the previous sanction of the security-owners by whom they are employed, to subordinate the rights and welfare of the security-owners to the supposed rights and welfare of the industry's employees or of the public, or even of both?

Regardless of that, the plain fact is that the railroads cannot much longer be kept a private industry without adequate net earnings. This fact has been given conclusive demonstration during the last decade, and especially recently. We present in an accompanying table the financial results of railway operation in each of the last twenty years, and the annual averages for the ten years ending with 1930 and for the ten years ending with 1940. "Total income" before fixed charges—that is, net operating income plus "other income"—averaged 1,320 million dollars annually in the decade ending with 1930 and "net income" (after fixed charges, and available for dividends) averaged 685 million, or $7.23 per share of stock. "Total income" in the decade ending with 1940 averaged only 720 million annually and "net income" (available for dividends) averaged only 81 million dollars a year, or but 82½ cents per share of

Railway Financial Results for Twenty Years

	Net Operating Income (000)	Other Income (000)	Total Income (000)	Net Income after fixed charges (000)	Net Income per share of stock
1921.....	$601,139	$375,001	$976,140	$350,540	$3.94
1922.....	769,411	265,033	1,034,444	434,459	4.85
1923.....	974,918	260,655	1,235,573	632,118	6.95
1924.....	984,463	269,188	1,253,651	623,399	6.70
1925.....	1,136,728	272,102	1,408,830	771,053	8.19
1926.....	1,229,020	301,541	1,530,561	883,422	9.43
1927.....	1,077,842	314,396	1,392,238	741,924	7.78
1928.....	1,182,467	323,310	1,505,777	855,018	8.79
1929.....	1,262,636	362,363	1,624,999	977,230	9.92
1930.....	874,154	361,196	1,235,350	577,923	5.77
Ten-year average ...	1,009,278	310,478	1,319,756	684,709	7.23
1931.....	528,204	307,785	835,989	169,287	1.69
1932.....	325,332	226,092	551,424	–121,630	–1.21
1933.....	477,326	213,592	690,918	26,543	.26
1934.....	465,896	203,941	669,837	23,282	.23
1935.....	505,415	186,228	691,643	52,177	.53
1936.....	675,600	182,821	858,421	221,591	2.23
1937.....	597,841	170,337	768,178	146,351	1.49
1938.....	376,865	150,566	527,431	–87,468	–.89
1939.....	595,961	156,050	752,011	141,134	1.44
1940*.....	690,304	163,873	854,177	243,300	2.48
Ten-year average ...	523,874	196,128	720,002	81,457	.825

* Estimated.

stock. The great decline of income throughout the last decade prevented replacements of freight cars and locomotives and resulted in a constant decline in their number and total capacity. This presented no problem as long as the volume of traffic was much smaller than during the preceding decade; and, in fact, because they had surpluses of equipment, the railways were repeatedly criticized by New Dealers and labor leaders during the depression for having "overexpanded" their plants and financial structures.

Warnings of Equipment Shortages Long Disregarded

It became evident when the railways narrowly escaped a car shortage in the fall of 1936 that their supply of equipment was being allowed to become too small. Nevertheless, when wage advances were under consideration in 1937, and wage reductions in 1938, no attention was paid to those who sounded a warning that net earnings must be increased to avoid the danger of shortages of facilities. The railways agreed to wage advances in 1937 and were refused reductions in 1938. Owing to this, and to the recession the beginning of which was shown by carloadings as early at June, 1937, net operating income was less in 1937, 1938 and 1939 than in 1936; purchases of equipment and materials were less in 1938, 1939 and 1940 than in 1937; and the decline of equipment continued.

From the beginning of the present war in Europe there has been constant discussion of whether the railroads would be able with the available equipment to handle the traffic that probably would be offered them. In its issue of September 2, 1939, the *Railway Age* said, "If America were drawn into the conflict, the increase in demands upon the railroads would **quite likely exceed the 40 per cent increase** which occurred when we joined the last war. * * * If America wants any insurance whatever in the way of preparedness for the possibility that we shall be drawn into the conflict, then 2,400 locomotives and more than 300,000 freight cars will be needed, merely from a standpoint of capacity only. * * * The railroads have been for years and are virtually a bankrupt industry. * * * We believe the Association of American Railroads should immediately and forcibly bring to the attention of the President, members of Congress and the American people the railway situation which now exists principally because of the past and present government policies. * * * If the railroads are caught unprepared, railroad management should see that the public is not misled as to who is responsible for their unpreparedness."

A. A. R. Makes Over-Optimistic Estimate

The Association immediately issued a statement plainly intended as an answer to the *Railway Age*. In this it estimated that the railways with their "present" equipment could handle an increase of 50 per cent in their "present" traffic. In the last week of August, 1939, which immediately preceded publication of the *Railway Age's* warning, carloadings were 716,397; so, what the Association's statement estimated was that with the equipment available in September, 1939, the railways could handle loadings of about 1,075,000 cars a week, and probably would not need a large increase of equipment.

What has occurred since? Traffic has increased until in June, 1941, carloadings were 37 per cent larger than in June, 1939, and ton-mileage probably was 44 per cent larger. Thus, already the *Railway Age's* estimate of an increase exceeding 40 per cent, "if America were drawn into the conflict," has been vindicated. How, then, about its estimate of the increase of equipment that would be required? The number of freight cars (railroad and privately-owned) in serviceable condition on September 1, 1939, was 1,612,689. On June 15, 1941, it was 1,766,980, an increase of 154,291. The largest loadings that had been reported in any week up to the time this editorial was written were 908,674 in the week ended June 28. These loadings exceeded by 27 per cent the loadings in the last week of August, 1939, but would have to be increased by 166,000 to equal the estimate made by the Association in September, 1939, as to what could be accomplished with the equipment then available.

The most recent car performance indicates that there would be required at least 150,000 more cars in good condition than were available at the middle of June to handle loadings of 1,075,000 a week. And, in fact, recently the Association has estimated that the railways will required 120,000 more cars in 1942 and 150,000 more in 1943 than they will have available at the peak of traffic this year. The *Railway Age's* more or less educated guesses on September 2, 1939, regarding (1) the probable increase in traffic and (2) the increase of equipment that probably would be required to handle it, begin now to appear not excessive, as the Association then charged, but substantially too small—as indicated by the Association's present estimates of future equipment needs.

Neglected Relationship of Net Earnings and Buying Power

We have engaged in this long discussion of the present and prospective situation as regards the capacity of railway facilities, and especially of equipment, to emphasize as strongly as possible what we have repeatedly emphasized before—viz., that railway management and government officials should give much more consideration than they ever have to **the effect upon railway buying** that is inevitably produced by any influence or action that increases or reduces railway net earnings.

The relationship between net earnings and buying power has been demonstrated and emphasized in these columns over and over again; but those who during the last decade have made important decisions affecting net earnings, especially in wage controversies, apparently have seldom or never conceded the relationship and its great importance. If they have, they certainly have not acted accordingly. It would be impossible to main-

tain effectively that railway employees should not be paid as well as those having comparable responsibilities and doing similar work in other industries. But, it is also impossible sanely to controvert the proposition that if the railways are deprived of the power to make enough net earnings to provide adequately for handling the traffic offered to them, they will become unable to continue under private ownership and operation. They are making net earnings now at a rate of a billion dollars a year; and they will need net earnings at that rate or more to provide for meeting the demands of traffic upon them as long as the traffic continues to increase.

If the employees are given substantial advances the effect upon net earnings will necessitate an immediate demand upon government for a large advance in rates. But if management makes advances voluntarily, as it did in 1937, it will leave itself again, as in 1937, with a comparatively weak argument to present to government officials in behalf of advances in rates. It seems to this paper plain, therefore, that management, by refusing any voluntary increases, should force the labor controversy to determination by an arbitration board or a President's fact-finding board set up under the Railway Labor Act—that is, to determination by men selected by the same government certain officials of which must later decide what advances in rates shall be permitted.

Patriotism or Self-Interest?

How far are the several transportation agencies willing to go—at a time when the whole transportation machine is going to be given just about all the business it can handle—in, each one, concentrating on that part of the job which it can do best; and relinquishing to other agencies that part of the job which they can perform at less expenditure of labor and material. Or do some of these agencies want to hang onto remunerative traffic to which, economically, they have no defensible claim? Should private or public interest dominate transportation policy at such a time as this?

For example, are the leaders of the organized trucking industry concentrating their efforts in the short-haul field, where their economy is superior to that of other forms of transportation—or are they, perchance, seeking first and foremost to hold on to their present unsound long-haul development and to promote its expansion?

It is not suggested that leaders of the trucking industry are unpatriotic according to their own lights, or that they would seek to avoid handling defense traffic which appears to be profitable to them. There may, too, be notable exceptions—but have you heard any truck operators say that they would willingly forego unsound duplications of service and concentrate their attention on the short-haul radius to which trucking is economically best suited, in order to maximize the capacity and efficiency of the country's transportation machine?

Both railways and truckers insist upon their right to participate in all traffic they choose to handle, but the railroads, at least, have never felt it to be their further privilege to duck out from under traffic they do not want.

Do not many of the proposals, advanced by the truckers in the sacred name of national defense, also have the suspicious characteristic that they parallel the selfish interests which the truckers were trying to put over before national defense was a major consideration? The elimination of falsely-labeled "trade barriers," for instance.

The railroad and the motor truck are such different transportation tools that, *naturally,* there would exist little competition between them. Before the advent of the truck, the railroads were performing a lot of transportation to which they were far from ideally fitted. It is a natural development, with truck service available, that the railroads should relinquish to them that part of the business (predominantly short-haul) where the truck is plainly superior. It is not a natural development for the trucks so widely to invade the long-haul field as they have—while neglecting to take (or the railroads to relinquish) short-haul (including light-loading) traffic, adaptable to truck movement.

Spokesmen for the trucking industry have publicly announced their great zeal for the national welfare; and this claim has been echoed in high governmental quarters—by officials so fair-minded that they prefer to lean over backward rather than fail to bestow credit where, possibly, some may be due. Nevertheless, in plain candor, the present task confronting the transportation industry requires the utmost efficiency—and that means dividing the job among the several agencies along lines of comparative economy. And how can it be said that any branch of the industry is doing its full duty when it resists such division?

No one has yet disputed the suggestion made in this space that adjustments in the rate structure will eliminate wasteful duplications in transportation; and deliver to each form of transportation that traffic to which its superior economy entitles it. No one has contended that such economical division of traffic can be achieved in any manner other than by such rate adjustments.

Why, then, any further delay? If a condition exists which admittedly requires remedial action; and there is no question as to the nature of the remedy required or its efficacy if applied, why not get on with the cure?

As has often been said in these pages, no effort is here being made to win an argument or support any dogmatic nostrum. Our purpose is to encourage the provision of transportation facilities sufficient to meet the needs of commerce and the national defense—and to do the job as economically as possible. No one has found any fault with that objective, any more than they have so far questioned the means to that end, as set forth here.

If the methods put forward herein would not result in a more effective effort to accomplish these socially-desirable results, a word from those who have better ideas of how the job may be done would be appreciated.

Meeting of General Committee and Special Purchases Committee in Chicago, on July 9

Clockwise: D C. Curtiss, C. M. St. P. & P.; W. R. Culver, C. & O.; C. B. Newbauer, Sou.; C. L. Wakeman, Wab.; H. E. Warren, G. M. & O.; C. H. Murrin, L. & N.; J. C. Kirk, C. R. I. & P.; L. P. Krampf, M. P., (Vice Chairman); W. J. Farrell, Secretary; A. C. Mann, I. C., (Chairman); C. E. Walsh, Penna.; E. A. Clifford, C. N. & W.; F. S. Austin, N. Y. C.; E. L. Fries, U. P.; E. J. Lamneck, Penna.; W. W. Kelly, A. T. & S. F.; O. A. Donagan, B. & Me.; and A. L. Sorensen

National Issues Enliven Meeting of Supply Officers

Scandrett warns of car crisis—Tower denies steel shortage at two-day gathering of Division VI.—A. A. R.

THE serious and ramified business of keeping the railroads of the country supplied with materials during the fever of a national defense program and mounting tightness in the car supply was considered from a variety of aspects and repeatedly emphasized in Chicago on July 10 and 11, during the 19th annual meeting of the Purchases and Stores Division—A. A. R. The meeting, which was attended by approximately 300 officers and employees of railway purchasing and stores departments and guests, heard addresses from H. A. Scandrett, trustee and chief executive officer of the Chicago, Milwaukee, St. Paul & Pacific; Walter S. Tower, president of the American Iron and Steel Institute; C. H. Buford, vice-president, A. A. R.; C. E. Smith, vice-president, New York, New Haven & Hartford, and G. M. Crowson, assistant to president, Illinois Central, as well as remarks from the chairman, A. C. Mann, vice-president, purchases and stores, Illinois Central, and received reports from 22 subject committees.

Visitors included V. R. Hawthorne, executive vice-chairman of the Mechanical Division, C. H. Dietrich, executive vice-chairman of the Freight Claim Division, and A. F. Free, disbursement accounts assistant of the Accounting Division, A. A. R., and N. C. Naylor, vice-president, Railway Supply Manufacturers Association, all of whom responded to the invitation of the chairman to address the meeting.

The general committee of the Division met on the day previous to the convention and also met informally with local members of the executive committee of the R. S. M. A., in charge of N. C. Naylor and J. D. Conway, secretary and treasurer. This meeting was addressed by Samuel O. Dunn, chairman, Simmons-Boardmen Publishing Corporation, and editor of the *Railway Age*.

Remarks of Mr. Scandrett

In a brief talk at the opening session of the convention, Mr. Scandrett pointed out that the nation is engaged in a tremendous program of preparedness and that the one thought and one aim of the railroads and of railway men must be to do the greatest job of railroading that has ever been done. There are skeptics in certain quarters, he said, who doubt the ability of the railroads to handle the tremendous volume of traffic that lies ahead but, he added, "they are wrong—we can do it." Nevertheless, he continued, we are not yet doing the job as it needs to be done. Many changes must be made in the way the railroads have been handling both company material and revenue freight, he said, if every car is to be made to do its full quota of work. Continuing, he stated that the job will not be done by anything any one says, but by every man on every railroad dedicating his best thought and effort to his own job and by all pulling together as a single team.

The defense program, he said, is just getting well under way and the peakload it will impose on transportation facilities is ahead of us, although it should also be remembered that vast quantities of construction and raw materials have already moved without any serious delay or congestion. The railroads have demonstrated their facility to handle heavy troop movements without

interference with the other traffic and are taking in stride the heavier demands as the preparedness program swings into action at an increasing tempo. "I have railroaded a long time," he concluded, "and never have I known a more enthusiastic determination to do a job and do it right than is manifest throughout our industry today."

Buford Hits Deadhead Freight

Mr. Buford expressed his appreciation to the chairman of various committee members of the division for the large amount of time given by them in recent months to the problem confronting the railroads of getting needed steel for cars and locomotives. "We finally got a priority for steel for car construction," he said, "and we are now trying to get a similar rating for locomotives and other needed facilities."

He pointed out that a shortage or delayed delivery of steel has set back the building program to such an extent that there will be 7,500 less new cars in service by October 1 than would otherwise have been available. "Despite our work and the priority assigned for steel for car construction," he said, "the material is not being delivered today in sufficient volume to get full production at the car building plants. The situation is improving somewhat but is not yet satisfactory."

The speaker predicted that the failure to get delivery on new cars, coupled with the possible increase in business, will create a condition this fall whereby the railroads will have to get more efficient use of cars than they have ever gotten before, and he called upon the purchases and stores officers to see that the most effective use is given to cars that are handling company materials. He suggested that purchases and stores officers should inaugurate plans by which they can know daily that there is no failure in the organization to carry out this program and urged that the supply departments work with other departments of the railroad which are ordering materials to insure that standard materials such as spikes, car materials and other items are ordered in lots that will give a maximum carload, even though it is necessary to hold some of the material temporarily at store points until it is needed.

Plenty of Steel, Says Tower

Walter S. Tower, president of the American Iron & Steel Institute, emphatically took exceptions to impressions that this country is faced with a shortage of steel and maintained that the answer to the present steel problem is not one of expansion of mill capacity by new construction but of proper scheduling and distribution. The steel industry, he said, may not be able to make all the steel which everyone might like to buy for early delivery but it can make all the steel which anyone will need to use, provided buying is orderly and in proportion to what is currently going into actual consumption. So far, he stated, there have been no figures offered by anyone to show that maximum defense requirements will amount to more than a minor fraction of the total ability of the industry to produce steel, nor is there any basis in fact for expecting that civilian consumption of steel products will take more than will be available after the needs of the defense program have been satisfied. At the present time, he continued, production of steel has been consistently ahead of actual consumption and he was emphatic that the anxiety about the supply of steel plates for vital needs, including the needs of railroads, is exaggerated. "There is no shadow of doubt whatever," he added, "that the railroads will get their steel in the amount and the delivery desired." Mr. Tower's analysis of steel production is printed elsewhere.

Mr. Smith outlined the opportunities for the purchasing and stores departments of railroads to improve the quality of railway materials and promote economies in their purchase, care and use through research work. He was prevented from attending the meeting, and his paper was read by his personal representative, F. C. Sheehan. G. M. Crowson reviewed the history of public relations work on railroads, both on individual railroads and by the A. A. R. and outlined his conception of the opportunities and responsibilities of railway purchasing and stores departments in increasing and maintaining public goodwill and understanding toward the rail carriers.

Priorities Discussed

During the meeting, W. A. Summerhays, formerly manager of the Forest Products Bureau of the Illinois Central and now serving in the division of priorities of the Office of Production Management, Washington, D. C., as a liaison between the railroads and OPM, explained briefly the history of the organization for priorities and outlined the action taken to date in the interest of the railroads. He stated that the critical list of materials required by the Army and Navy has been increased from 29 items to approximately 300 items and classes of material and now extends to almost all classes of material vital to railroads.

Despite the priorities granted to materials for building freight cars, the steel for this project has not been forthcoming, and two car plants were shut down last week for want of car steel.

It is entirely probable, he said, that pig iron and scrap will be subjected to inventory control to assure the distribution of these basic materials into proper channels. He explained that requests by railroads for preferential deliveries on steel rail should not be necessary and took the position that the railroads should preferably arrange their own allocations of rail. He also asked the railroads to refrain from withholding scrap wheels, explaining that a shortage of new wheels for new equipment exists and the raw materials for these wheels comes largely from scrap wheels. Referring to certain difficulties encountered by the government in obtaining prompt and satisfactory replies to questionnaires about railroad crossties and cross-tie treatment, he brought out that the prices requested by the government were desired only to assist in determining from what areas crossties should be drawn for new army projects and in estimating the cost of treatment, and urged that the railroads should not hesitate to report these figures. The speaker forecasted that an order granting priority to materials for locomotives would be issued soon, and explained that two priorities would be issued, one for new locomotives on order and another for repairs.

New Officers

In retiring from the chairmanship, Mr. Mann dwelt upon the confused political and social condition of the world and appealed to the membership to recognize the gravity of the situation and to employ their time and talents in readjusting and reorganizing their methods to meet changing conditions. The immediate requirement, he pointed out, is to utilize more material-handling equipment in order to release man power from all necessary work, make a more extensive study of scrap handling and reclamation in order to utilize materials already in possession, insist on the heavier loading of cars, study the possibility of making substitutions in materials and consider substituting commercial standards and specifica-

L. P. Krampf
Chairman Elect

A. C. Mann
Chairman

E. J. Lamneck
Vice-Chairman Elect

tions in place of railroad specifications to improve deliveries and avoid delays to important maintenance work.

At the conclusion of the meeting, L. P. Krampf, supply agent, Missouri Pacific, was elected chairman and E. J. Lamneck, purchasing agent, Pennsylvania, was elected vice-chairman. M. E. Towner, general purchasing agent, (W. Md.) was elected to the general committee for one year, while officers elected to the general committee for a two year period consisted of F. S. Austin, purchasing agent, (N. Y. C.), G. O. Beale, purchasing and stores officer, (C. & O.), G. M. Betteton, purchasing agent, (S. P.-P. Sys.), O. A. Donagan, general storekeeper, (B. & M.), W. W. Kelly, general purchasing agent, (A. T. & S. F.), C. L. Wakeman, general storekeeper (Wab.), and E. W. Walther, general storekeeper, (B. & O.). Portions of the addresses and a digest of the reports of subject committees follow:

Remarks by Chairman Mann

We are in the midst of what appears to be a world revolution —a testing time in which the product of the ethical thinking of many decades must prove its right to survive. We must face the fact the impersonal forces of evil are massed as never before in a determined drive to destroy all of the constructive development that mankind has made. The pressure of circumstances throughout the world is attempting to force a wholly new order upon us. Old ideas and methods are just as outmoded in social, political and economic fields as are the combat tactics of 1914 when they impotently face the new techniques revealed in the Blitzkreig. Faith in diplomatic processes and treaty agreements, which in the past have brought some basis for international security and confidence, have been completely shattered and the neighbor nations of our world are frantically seeking a new order—almost any order, it would seem, which will guarantee even partial or temporary security. The old world which was so comfortable for many of us, in spite of its glaring faults and inequalities, has disappeared and there is no time for sorrow and regret. New conditions are sweeping forward with an aggressiveness which can be turned back by the forces of democracy only if and as democracy is able to match the forces of evil with an equal or greater power generated by love of freedom, and inspired by complete selflessness which accompanies a great and just cause. The attacker and despoiler of our world has secured a seemingly unlimited measure of subjection and unity of action from his people by the use of terror, coercion and intimidation. If the forces of good are to achieve anything approximating the grinding power and speed of the enemy, our unity of purpose will have to come from higher motives than those which have secured such startling results for the dictators.

Security, honor and the right to live with self-respect can come only with the courageous acceptance of high ideals and their maintenance regardless of the cost involved. We have our part to play in helping to mould public opinion in this country so that our great democracy may not lose its power to be of service to all mankind. We must accept the theory that our country's active participation in the present war is inevitable and may come at any moment. If this occurs, we must accept the further suggestion that the whole economic structure of our country may be altered to such an extent that private ownership and management of industry may have difficulty in surviving, even in a theoretically democratic country. If private ownership and management of industry are allowed to continue, it is important that every step taken in readjusting and reorganizing methods to meet changing conditions shall be accurately taken in the direction of the "long pull" into the future, and not merely provide a quick remedy for an immediate difficulty.

Address by Mr. Tower*

Rated steelmaking capacity today is more than 85,000,000 net tons of ingots a year. Next year it will be substantially more. If pushed by stern necessity for the last available ton, the industry, as it now stands, probably could make at least 87,000,000 tons in 12 months, provided there were no interruptions in the flow of materials and the supply of labor. So far this year, actual output has been at the rate of about 82,000,000 tons. For the calendar year, 1941, the defense program and British-Canadian tonnages represent an ingot equivalent of not more than 18,000,000 tons. For the calendar year 1942, the current estimate for our own program is a little larger. The British need next year is still uncertain, but is hardly likely to expand much, when the limiting factor of shipping space is considered. Available facts, thus, justify the belief that both this year and in 1942 there will be fully 67,000,000 tons of steelmaking capacity which can be used for domestic civilian consumption and for whatever exports may seem desirable to countries other than Britain and Canada. Such other exports are not likely to call for more than 3,000,000 tons of ingots, leaving a minimum of 64,000,000 tons for domestic civilian uses. This country has never in any year been able to use any such quantity of steel.

* President, American Iron and Steel Institute.

Even in 1940, total domestic consumption, including defense and civilian uses, was only 55,000,000 tons.

A careful reading of the recent report to the President by Gano Dunn reveals that in his considered opinion, expansion of steel-making capacity is not now justified beyond the normal and natural increase which is always going on in the industry, plus certain special additions, like electric furnaces, to meet specific defense requirements. Any other conclusion, must be based on the assumption that requirements for non-military uses will soar to fantastic levels. Dunn's report is more than liberal in respect to steel likely to be needed for civilian uses. In arriving at his final estimate, Dunn took a compromise figure halfway between a higher estimate and a lower one. Even the lower of the two estimates does not take fully into account the restrictive influences on steel consumption which are bound to operate before the end of 1942. These include scant supplies of zinc, nickel, tin and other materials used in making common types of finished steel, the diversion of skilled labor and plant facilities to production for defense; higher prices for many consumer goods; the burden of greatly increased taxes; disorganized world markets for all kinds of products; and curtailed shipping facilities.

No Anxiety Over Steel Plate

The present program of the railroad is to build about 170,000 cars over the next 18 months. With a liberal allowance of plates per car, the car program to the end of 1942 is likely to call for a maximum of about 1,500,000 tons of plates. The shipbuilding program, naval and merchant, totals considerably less than 1,000 vessels on which any work is likely to be done before the end of next year. The principal cargo type, which is the largest single item in the program, takes about 2,100 tons of plates per vessel. Few of the craft, chiefly in the naval type, take more than 3,000 tons of plates per vessel. If the entire lot were completed by the end of next year, which now appears unlikely, the tonnage of ship plates needed would not reach 2,500,000 tons. For cars and ships the combined figures is not over 4,000,000 tons, over a period of 18 months. Existing plate capacity can turn out at least 7,500,000 tons in that time. Some changes in other mills to adapt them for rolling car and ship plates can, within six months, add a further yearly plate capacity which will much more than double the prospective needs of the car and ship programs.

The tonnage of ship steel was included in the estimate for military requirements, taken as the first charge against capacity. The car tonnage comes out of the 64,000,000 tons for civilian uses, and in terms of ingot equivalent, plates for the car program are equal only to a little more than 3 per cent of that total. It should be evident from these facts that anxiety about the supply of plates for vital needs is exaggerated. The case of plates, is basically typical of other kinds of steel products.

The Office of Price Administration and Civilian Supply has issued an order giving preference to materials for carbuilding and repair over all other civilian uses. With that order and the steel-making capacity for civilian uses, there is no shadow of doubt whatever that the railroads will get their steel in the amounts and the deliveries desired. Any real shortage of steel for nonmilitary uses seems both unlikely and unnecessary. Should the unlikely happen, it will come early, will be brief, and it can be dealt with only in one way; that way is temporarily to ration or to curtail the most dispensable uses. The machinery for such action already exists. It could be applied promptly. It should not be necessary to use it generally, or for very long in any case.

Address by Mr. Crowson*

The purchases and stores departments of the railroads are a point of contact between the industry and its suppliers. As such they have the opportunity, indeed the obligation, of maintaining cordial and informed relations with the suppliers. In speaking of suppliers, I refer not merely to those who are engaged in what are commonly recognized as railway supply industries. Their interest in, concern for and acquaintance with the railroads can be taken for granted. I am thinking also and more particularly of the manufacturers of almost everything under the sun, for the shopping list of the railroads is just about that inclusive. Here is a vast field of endeavor for the people of the purchases and stores department in the cultivation of public relations. The job is to make and keep this vast range of suppliers railroad-minded, to supply them with information that will enable them to make others railroad-minded, to acquaint them with the achievements of the railroads, to combat misinformation about railroads wherever such misinformation rears its head, to provide our friends among the suppliers with ammunition to combat such misinformation elsewhere and to keep a finger on the pulse of public opinion as it is to be found among those who sell things to the railroads and to report such findings as guides to managerial and educational action—in short, so far as this highly important segment of the public is concerned, to be the eyes and ears, the hands and minds, and the voices of the railroads in their public relations work.

The purchases and stores departments also enjoy a unique relation to all other departments of the railroads. As buyers

* Assistant to the President, Illinois Central.

Purchases and Stores Division—A. A. R. in Session at the Palmer House, Chicago, on July 10

and keepers of the materials and supplies and tools that are used in every other department, they necessarily maintain an intimate acquaintance with all other departments. This opens up another great opportunity that is also an obligation to engage in public relations work. That is in helping all of us in railroad transportation so to carry on that we shall truly win friends and influence people both for our railroads individually and for the railroads as a whole. That implies cordial relations with all other departments. It also implies the utilization of information, particularly purchases, by all the workers of the railroads.

Research in Purchasing and Storekeeping

By C. E. Smith*

Railroads use practically every commodity and nearly every manufactured article. The stores list of any large railroad includes over 70,000 separate items, from pins to locomotives, from dirt to diamonds and gold. Every industry, material and process of manufacture is involved.

Purchasing and stores departments function as agencies in procuring and storing necessary materials for the maintenance and operation of the railroads. While they are not producers or sales agencies, and are not in position to conduct technical research on their own account, there are many ways in which their research can lead to betterment of materials and methods used by railroads.

Every day, manufacturers' representatives are offering purchasing agents better materials and products and purchasing departments have continual opportunities to find out by research the extent to which such improved materials may be used. This may be done by conferences with the using departments, by test orders, by comparative reports, and otherwise. By this means many improvements may be made in the design and character of the materials reaching the using departments, and it is one of the principal means by which such items are introduced. In this work the purchasing and stores departments should not wait for others to move when there appear to be opportunities for betterment.

All concerned should be purchase-minded. The purchasing department receives requisitions for many articles which by the cold rule of logic, should not be bought and there is an opportunity to search into the reasons why such requisitions come along and how they may be corrected at the source. Purchasing agents cannot be familiar with the character of each article that is purchased but they can satisfy themselves that the using departments are not requisitioning materials through force of habit when the purchasing agent is quite convinced that better materials are available or equally good materials at lower cost. The purchasing agent should make sure that such research is carried out to determine how such situations may be improved.

* Vice-President, New York, New Haven and Hartford.

Catalogs

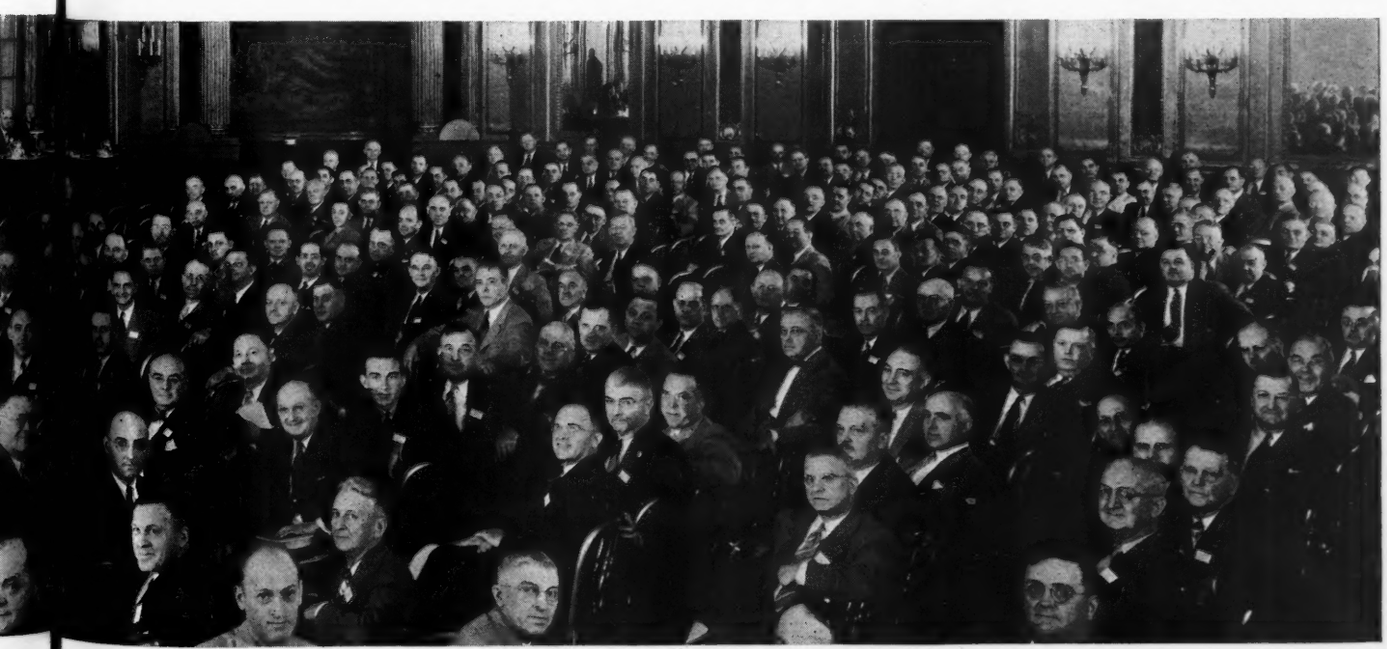
Some materials called for by requisitions may indicate that obsolete catalogs are in the hands of supervisory offices. Instead of blindly placing orders for such materials, the purchasing agent should find out why such materials are requisitioned and why more modern and improved materials should not be furnished. Where it appears to the purchasing agent that supervisors are not familiar with the railroad company's own specifications or are not following them, there is an opportunity to improve this situation by research into the reasons for the defection.

Research into the purchasing, assembling, care, treatment, distribution and utilization of forest products offers a wide field. It is full of special problems. The time when we could command the best of the forests has passed and we are now in a period when we must use substitutes to secure the best result. Some progress has been made in recent years toward standardization of certain grades of lumber, particularly car lumber, in keeping with the class and quality of wood available today. But there is much evidence of the need for further research into all phases of lumber procurement and utilization. The treatment of timber still offers a broad field for research. The fire hazard in connection with certain types of treatment indicates the need for further research into treating materials that are fireproof and will not leach out or otherwise lose their efficiency. The tremendous consumption of timber cross ties indicates the necessity for continued research into means for preserving them and lengthening their life and thus reduce the demand for this material.

There is an opportunity in the purchasing and stores departments for research into the use of materials, particularly replacement parts for standardized equipment, which diligent research will frequently indicate can be purchased as well and much more cheaply from the original manufacturers than through the equipment builders which must purchase them from the manufacturers.

New Sources of Supply

Purchasing departments should be alert for such new sources of supply, particularly where there is no competition because certain materials have been furnished by a single manufacturer. In



Approximately 300 Members and Guests Were Present at the Opening Session

many cases alternate materials may be discovered by careful research that will enable the purchasing agent to bring about healthful competition, reduce expenditures, and frequently improve results.

New methods and devices that protect materials and reduce costs of handling should be adopted quickly. There is no more effective way in which this can be done than by visiting each other's facilities and by carefully studying the information made available in railroad trade papers, which should result in each railroad adopting the best devices and methods in use on others.

There is opportunity for further research into the use and movement of freight cars used in handling company materials and non-revenue ton miles, all of which are costly to the railroads. It is no secret that railroads themselves use freight cars in ways that would be costly to commercial shippers. Sometimes materials are shipped without reference to carload minimum or maximum; materials are permitted to remain on cars much longer than would be permitted if demurrage were charged; and cars are used as storage warehouses.

The disposal of metal scrap is a problem open to research at all times. It is difficult to go through a scrap yard without a feeling of dismay that so much apparently useable material is on its way to the melting pot. Of course, this feeling immediately indicates the necessity for and stimulates careful research into methods by which used material may be re-used. While a great deal has been done along such lines, the door has hardly been opened, inasmuch as newer processes available to railroads make possible the reclamation of many articles formerly destined to the scrap heap. Furthermore, the preparation of scrap is a subject for continual research to determine how it may be sold on the most favorable basis, considering all factors entering into the cost of picking it up, assembling, sorting, preparation, and shipment.

Simplification of stores stock offers a wonderful opportunity for further research, particularly now during the defense program. The number of sizes and styles of many products can be reduced materially under present day conditions because it is now possible to manufacture special sizes on the job which was not possible in the past. Research will indicate where it is more economical to pay lower prices for larger quantities of fewer sizes and cut out special sizes than to purchase more sizes in smaller quantities and pay higher prices through quantity differentials.

Substitutions

While the defense program and aid to Great Britain are consuming so much of the materials on which we have been depending, it is important that orders be placed far enough in advance to insure deliveries, and when materials are definitely not available that the purchasing department cooperate with other departments and conduct careful research into appropriate substitutes that can be secured and used satisfactorily. It is quite possible that as the result of such research many substitutes will be found that will be continued in service even after other materials are again available. While this refers particularly to the temporary emergency period, it is quite as important, if not more so, that continuous research be conducted in normal times to discover substitutes for materials that do not give satisfactory service, or that may be replaced by less expensive materials.

Research into lists of bidders offers a field for economy in office work and postage. Many bidding lists include the names of companies who seldom bid or whose products would not be used if they did bid, because they are known to be unsatisfactory. There is no good reason from a purchasing standpoint why such bidders should continue to receive inquiries.

Report of General Committee

Meetings of the general committee were held in September, November, March, May, and July. During the year, the special purchasing committee was actively engaged in following developments on priorities, scrap, and bituminous coal. It has furnished the Association with information relating to the material situaton, and has supervised the preparation of inquiries which have been sent to the railroads from time to time, requesting information essential for the proper handling of orders for railroad materials with representatives of the National Defense Commission, at Washington.

A sub-committee was appointed to act as a contact committee, with reference to priorities on steel and machine tools for railroad use, this committee consisting of M. E. Towner, general purchasing agent, W. Md.; W. S. Galloway, purchasing agent, B. & O.; E. J. Lamneck, purchasing agent, Penn.; L. H. Skinner, general purchasing agent, Sou. The special purchasing committee will continue following the national defense program.

Regional purchasing and stores meetings held during the year were exceptionally well attended. In view of present conditions, it was suggested that meetings be held at least every three months in the future. The subject of a separate primary account for store expenses was discussed at various meetings and is now being considered by the Accounting division, A. A. R. A sub-committee was appointed to collaborate with the Accounting division, consisting of C. B. Neubauer, assistant to vice-president, Sou; O. A. Donagan, general storekeeper, B. & Me.; C. H. Murrin, general storekeeper, L. & N.; and A. L. Sorensen, manager of stores, Erie.

During the year, information about stores expenses was obtained and submitted to the price committee for use in establishing prices for materials used in interchange.

The general committee elected to honorary affiliated membership, for life, E. G. Walker, retired assistant general purchasing agent, A. T. & S. F., and G. F. Slaughter, vice-president, American Steel Foundries, formerly general storekeeper, C. & N. W.

The secretary has a limited supply of the Manual of Rules and Practices for members who have not obtained copies.

To bring about closer contact with the Office of Production Management at Washington, the headquarters of the Division were transferred to the Association's offices, Transportation Building, Washington, D. C.

Report on Material Classification

E. G. Roberts, Chairman*

The committee proposed that Standard Material Classification 1-C should be changed to include hand and power-operated tools for roadway instead of including them in Class 9. Items to be transferred include adzers, grinders, rail drills, rail grinders, rail welding equipment, track mowers, track oilers, track sprayers, weed burners, ballast discers, levelers, rail layers, power tampers, and power track tools. These items have all been placed in service since the original classification was set up and were placed in Class 9, although that class covered the heavier types of equipment. However, Class 1-C is intended to cover tools and equipment used on sections for track repairs. All these items are used for track repairs by trackmen, while materials for coal chutes, water stations, elevators, etc., are used for different purposes and by separate departments. A number of parts for this equipment are interchangeable with motor car engines now in 1-C, and concentrating track tools and equipment, whether hand or power-operated, in Class 1-C will avoid the possibilities of duplicate stocks and confusion in accounting offices in pricing and classifying. Some roads now carry these items in Class 1-C. It was also proposed to revise Class 9 to include power derricks, cranes and similar work equipment for roadway work.

Codes

A plan for codifying the standard material classification was included in the 1940 report of the committee. A sub-committee of the Accounting division met with representatives of this committee and unanimously approved the arrangement. The text of

Class	Code	Class	Code
1-A	1.1	25-A	25.1
1-B	1.2	25-B	25.2
1-C	1.3	25-C	25.3
2-A	2.1	25-D	25.4
2-B	2.2	25-E	25.5
5-A	5.1	36-A	36-1
5-B	5.2	36-B	36-2
13-A	13.1	45-A	45.1
13-B	13.2	45-B	45-2

* General Storekeeper, Chicago, Rock Island & Pacific.

the recommendation is that present classes carry the same number for class code reference that is used in the standard material classification, except where classes are sub-divided, such as 1-A, 1-B, and 1-C, in which case numbers should be used instead of letters on classes now sub-divided as shown in the table.

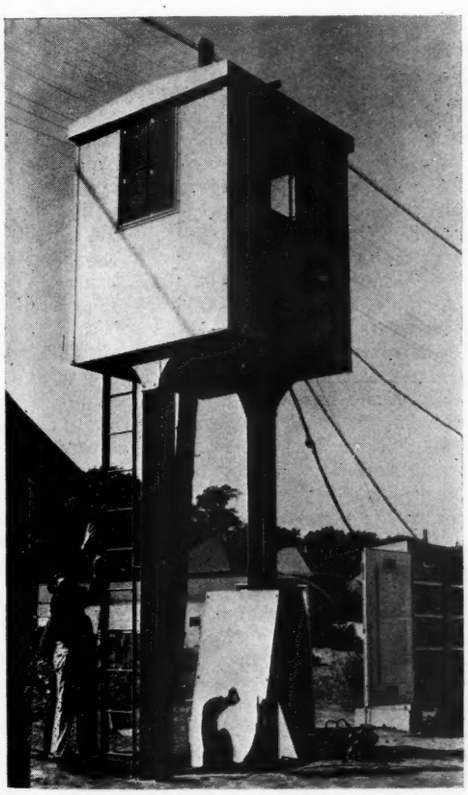
Discussion

B. T. Adams (I. C.) objected to transferring motor cars and motor car parts entirely to Class 1-C with track and roadway tools, contending that the storekeeper's interest is more largely in the parts for motor cars than in the machines and that the parts are used by different departments, but it was explained by the chairman that the committee's recommendations extended only to certain tools and parts for tools which previously had been improperly classified with rail-mounted work equipment and machinery for fuel and water stations. The chairman also explained, in answer to a question from C. H. Murin (L. & N.) that the use of a decimal point in coding certain materials outlined in the report would create no confusion in machine accounting for material disbursements and this position was confirmed by A. F. Free of the Accounting division. The report was then accepted without further discussion.

Report on Reclamation

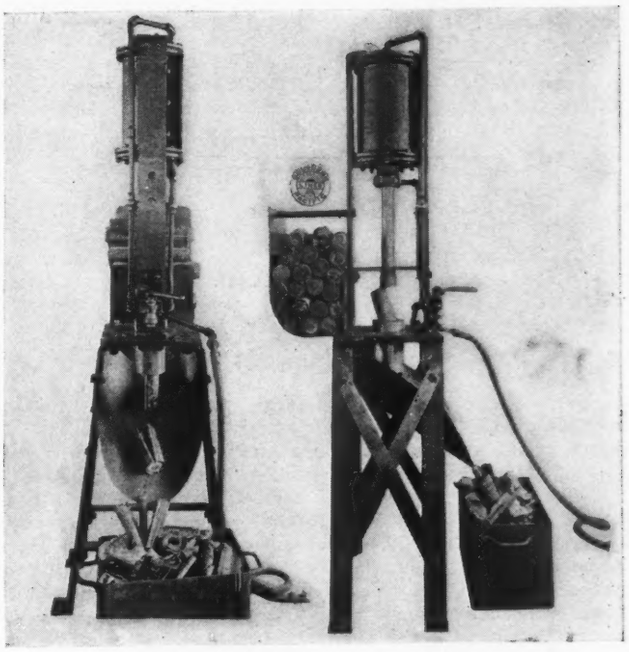
E. R. Casey, Chairman*

The committee endorsed a statement issued to employees by one railroad launching a campaign for the conservation of material, to continue for the duration of the national emergency, by saving material, refraining from ordering new material unnecessarily and thinking up new ways of using old materials.



Signal Tower Made from Scrap

During the year, the committee continued its contact with the Mechanical and Engineering divisions, following up requests made in 1938, 1939 and 1940 for reclamation practices and tolerances, and made requests this year covering additional items. Standards still pending include journal boxes, wrought iron and steel and cast steel coupler yokes, cast steel truck sides, truck center pin, draft keys, coupler knuckle pins and journal bearing wedges. Tolerances and wear limits were also requested on brake levers, brake connections and pins.



Dry Battery Stripping Machine

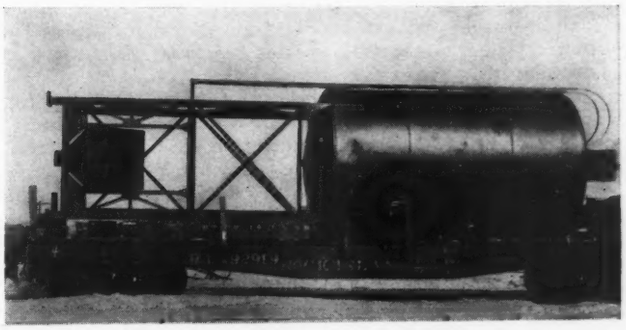
Couplers—Cracks in Back Wall

The Mechanical division considered the proposal to extend the limits of cracks allowed in the back wall of couplers to 10 in. in length and to 4 in. above or below the center line and approved the condemning limits for couplers in service. It was not recommended to extend the reclaiming limits now provided for in the Rules for the reason that cracks of the magnitude proposed for condemning the coupler cannot be reclaimed satisfactorily because of the design of the coupler head.

Track Tools

At a recent meeting of the Engineering Division, the subject of recommended limits of wear of track tools was considered and progress was reported in the study of clay picks, tamping picks, spike mauls, lining bars, track adzes, carpenter adzes, double face sledges, tamping bars with chisel ends, tamping bars with spear ends, track chisels, tie plug punches, round punches and track shovels.

The committee recommended that the limits of A. A. R. Welding Rule 23 should be enlarged to extend the welding limits on center plates from 40 per cent to indefinite, to weld cast steel truck bolsters if the material remaining is 60 per cent of the original section, and to allow electric welding of cracks in the



Sanding Tank Made from Scrap

* Superintendent of Reclamation, Union Pacific.

shank back of the head of the entire shank length of coupler bodies, if they are not cracked over 15 per cent of the original construction or section, and to allow electric welding of cracks in the front face of the top and bottom sections, if they are not cracked over 40 per cent of the original section. These parts should be removed from the car, when electric welded, annealed and gaged.

Lubrication

One railroad reported that 75 per cent of its hot boxes are on foreign cars, indicating that A. A. R. Rules are not being followed.

New Methods

Switch circuit controller rods are repaired on one road by rebushing. The eye end of the rod is drilled and reamed to accommodate a phosphor bronze bushing. The jaw end is drilled and reamed to accommodate phosphor bronze bushings and the bushings are pressed into the reamed holes and a new body bolt with castellated nut and cotter key is furnished. Other drawings showed how one railroad made a standard pump house for Diesel fuel stations from scrap material and a method of making track levels from scrap pipe. Another railroad manufactures signal towers and sand tanks from scrap material.

Several railroads described methods of restoring rail anchors to their original contour by the use of hydraulic presses. One railroad reported the practice of sending reamers that are worn badly to the manufacturers where they are re-cut to smaller sizes.

On one railroad, motor car crank shafts are repaired by turning the crank pin to four different undersizes, using a special tool for this purpose that costs approximately $50. Connecting rods are purchased undersize and then bored to fit the turned crank shaft on a high-speed, two-spindle connecting rod boring machine. Several roads use second-hand locomotive air reservoirs for underground storage tanks for gasoline at section tool houses.

Recapping Truck Tires

Several railroads reported the practice of selecting tires worn thin on the tread and having some outside concern place a new tread on the tires. This work is being done at approximately 50 per cent of the cost of new tires and mileage tests so far are comparable to new tires. A method of heating coupler draft lugs and straightening them in a clamp actuated by an air cylinder, after which they are welded to compensate for wear, was described. Other sketches were presented to show how one railroad welds No. 2 coupler lock lifts by heating and straightening them in a jig, then grinding them to a No. 3 gage. The practice of reclaiming striking plates, not only by welding but by reinforcing, were shown, the materials used in repairing these plates being secured from bottom tank plates of locomotive cisterns or bridge girders and other suitable scrap accumulations.

Triple Valve Pistons

One railroad reported the reclamation and repairing of triple valve pistons by using a specially designed tool for regrooving the piston where the groove has been partially closed. The piston is placed in the tool after it has been taken apart by unscrewing the compression cap. The cap is screwed back on the tool and the piston is held centrally on the ball thrust bearing. The tool is then grooved by a knurled knob adjusting screw, after which the crank is turned and, while being turned, the tool is lowered into the groove by turning a handwheel. The tool is gradually lowered, cutting out the groove until the proper depth has been attained.

Oil from Waste Plants

Several railroads are using sludge from waste reclamation plants for firing engines, greasing center plates, lubricating gears, front end paint and for protecting wheel journals and other bright metal parts from rust. It is necessary to thin the oil slightly with kerosene.

Discussion

It is brought out that the New York Central is setting aside reamers and cutters for possible reclamation owing to the scarcity of these tools and that this road has effected remarkable savings in the reclamation of goggles. L. F. Duvall (A. C. L.) stated that the Atlantic Coast Line no longer limits reclamation to materials which can be reclaimed at less cost than new material but has been led by the growing difficulty of getting new materials to set aside all materials that are susceptible of reclamation so that such materials can be reclaimed or reconverted to use if required. He stated that a mechanical committee has been appointed to inspect scrap piles at least once a week, and that everything is salvaged that can be salvaged. It was also brought out in answer to questions from W. J. Sidey (L. V.) that the St. Louis-San Francisco is making track levels from old pipe at a cost of 74 cents per level and that recapping of motor truck tires is costing the Illinois Central only 30 per cent of the cost of new tires and that the Milwaukee has had tires recapped as many as five times. It was also brought out that manufacturers are now giving guarantees on recapped tires.

Inventories and Pricing Methods

C. K. Reasor, Chairman*

There has been some increase in the number of roads that are using the direct method of pricing material issues within the past few years. One road is using the direct pricing method on all inside materials except nuts, rivets, etc., where an average price per pound is in effect. For the latter materials the prices are posted at the delivery counter or other convenient place. This road does not apply prices to outside materials, a larger percentage of which, such as lumber, bar and sheet iron and steel, etc., are given an average price. A price record is maintained on visible cards at a central point and price changes are announced to the line once each month. These price change lists merely show the material item or reference number and the new price. Necessary changes are made on material bins and acknowledgment made to the general office that this has been done. This road reports a reduction in its expenses for pricing material issues and feels that it takes no longer for attendants to apply prices to issue documents than it does to apply material item or reference numbers or clarify descriptions sufficiently to permit accurate and rapid pricing in offices and that direct pricing facilitates the completion of annual inventories as prices and quantities are called at the same time. It also finds that there is less likelihood of a stockman applying too high or low prices to material issue documents, as the stockman has the prices and materials before him at the same time. The placing of prices on material bins coordinates more closely with the purchase prices of the material and, as a result, suggestions are received which produce savings.

Another road has employed direct pricing for years. Unit prices are calculated by machine operators and shown on the face of the invoice. Invoices are then separated according to material classification and sent to sectional storekeepers. Prices are then applied to bin labels or to the material itself. Under this plan actual prices are applied to the materials and the separation can be carried as far as necessary by using separators or containers to designate each lot received at different prices. The prices are passed to the divisions or local storehouses on transfer bills and shipping notices, which enables the division and local storekeepers to keep their prices up to date. This road applies prices to material tickets and transfer requisitions as the material is taken from bins in same manner.

The committee did not attempt to determine the best method of direct pricing.

An investigation by one of the regional committees having developed a startling difference on the roads in the region between

* Assistant Manager of Stores, Erie.

the high and low cost of taking and completing annual accounting inventories, it was recommended that each road analyze its cost of taking and completing its annual accounting inventory by separate locations and obtain separate costs for listing, consolidating, traveling expenses, pricing and extending, totalling and verifying. It was also suggested that the cost of labor be separated between regular and over-time expense.

Some roads have inaugurated a new development of machine accounting in pricing and inventory work. The new machines have been in service only a short time.

Counting Material

A standard method of taking inventories was proposed for inclusion in the Manual. The material of one class should be together at each location where it is carried, so that the listing can be made, in classification order. However, the actual listing of the material should invariably follow the stock. All items should be listed direct from shelves, racks or bins. No item should be listed in a note book or on loose sheets. Each inventory form should show the name of the station, the number of the section, etc., where the material is located. A separate record should be used for each location. Every item in stores stock should be listed. Items that were delivered to the shops for immediate use and were charged out should not be listed. Items not in stores stock (such as rejected materials, second hand materials stored for shop, etc.) should be listed on separate sheets. Items shall be considered new unless they are designated as being second hand. Every item should be listed according to the actual count, weight, or measurement at the time of the inventory. When the same kind of material is stored in several sections or locations, separate entries should be made. No attempt should be made to consolidate the items. Identification marks shall be placed on all material, or on packages, bins, racks, etc., so that any person who checks the work can readily determine whether any items have been overlooked. Material carried in working stocks at points not directly under stores supervision shall be listed in the same manner as any other stores material. During the actual listing of material, shipments from one point to another should be held to a minimum, in order to avoid the necessity of accounting for a great deal of material in transit.

Report on Railroad Scrap

R. E. Hamilton, Chairman*

The scrap arbitration committee received four cases for consideration during the year. In the first case a mill rejected bent and broken axles shipped as Axles, Class, 3, although the broken axles were longer than the distance between wheel seats. The committee decided that the rejection was not justified inasmuch as the classification does not specify that axles must be straight, but does say that axles can be included if they are no shorter than the distance between wheel seats.

In the second case, a road reported several rejections of No. 2 Cast Iron, Class 13, because the shipments included cast iron building radiators and the committee's decision was that radiators are an inferior grade of cast scrap because of their light construction and limed condition and should be graded in Cast Iron No. 4, with stove plate and similar material.

In the third case, a road paid a claim of $200 on 40,000 lb. of scrap sold as Class 50, because the turnings were mixed with manganese bronze turnings from piston heads and boxes. It was the consensus of opinion of the committee that the rejection was not justified, as Class 50 does not differentiate between bronze, manganese bronze, and the various other mixtures of bronze now being used on railroads.

In the fourth case, a quantity of Class 29, Steel Rail No. 3, was rejected because it included 40 lb. rail, which apparently had been taken up from some mine track. The committee did not feel that the rejection was justified, as this class of rail is broken up for heavy melting purposes, and the A. A. R. Scrap Classification has never specified any weight of rail in this class.

The committee recommended that the Standard Scrap Classification should not require cutting of boiler plate 3 ft. long but should permit cutting to 5 ft. long, as the balance of scrap in this class. The committee decided that changing Class 24 to allow 24-in. by 6-ft. pieces instead of 18-in. by 5-ft. pieces would result in a much lower price for this item, as it would limit the sale to a few plants having facilities to handle the larger scrap.

* Supervisor Reclamation, Chesapeake & Ohio.

New Markets

Owing to present activities in the various industries, it was suggested that the subject of new markets be actively discussed. Some of the items inviting attention are zinc from dry cell batteries, tank hose after wire has been removed, worn out machinery and second-hand lumber. One railroad is selling second-hand lumber from car repair operations for as much as $15 per M. bd. ft.

Grading scrap at point of origin was considered and, while no figures of savings are available, the roads handling scrap in this manner would not return to the old method. It was suggested that the individual roads make a survey of all inactive material, equipment, etc., to determine whether it can be scrapped, because of the present heavy demand for scrap materials. This will reduce the investment in materials and release scrap for urgent needs.

New Devices

New facilities and methods of recovering certain types of scrap were described. Zinc is recovered from exhausted dry cell batteries by one road by splitting the battery in half with a stripping shear, removing the carbon filling and paste board covering by hand, breaking terminal posts and screws and zinc with pliers, and melting the zinc into pigs.

For stripping wire from rubber tank hose, a machine was constructed from a discarded lathe to which was applied a chuck and a taper spindle. The hose is cut at one end for the purpose of pulling sufficient wire to attach to the spindle, the opposite end of the hose being securely fastened in a vise or clamp. The machine is operated by air and the wire is removed by turning the spindle. As soon as the wire is removed from one hose, the wire from the next hose is attached to the free end of the wire on the spindle and the process continued.

A large hydraulic press was described which crushes scrap triple valves without the use of heat. From this, a clean grade of scrap brass and cast iron is obtained, and this scrap is sorted at the machine into separate skids for handling direct to car or brass storage.

Discussion

W. L. Wheeler (C. & N. W.) questioned the wisdom of including radiators with No. 4 scrap, stating that the North Western avoids rejections and obtains approximately $3 a ton more for radiators by placing them in a special classification used by the North Western, but it was explained by J. C. Kirk (C. R. I. & P.) that the committee was concerned only with classifications standard with the Association. W. P. Stewart (I. C.) reported that boiler plate is now free from lime on the Illinois Central and objected to the specification that cut boilers must be free from staybolts to be included under Class 24. He was supported in this by J. J. Collins (Erie), who stated that the shearing operation largely assures the removal of all lime from cut boilers and argued that this would be a good time to revise the classification to permit the inclusion of staybolts, but the committee avoided the issue by explaining that the purpose of the committee's revision of this scrap classification was only to permit larger pieces of cut boiler plate so that the size of cut boiler plate would harmonize with the sizes of other materials included in the same classification.

D. C. Curtiss (Milwaukee) expressed the opinion that the committee's report should include some reference to the changed conditions throughout the country with reference to scrap. He contended that scrap should no longer be considered merely as scrap but as material and that emphasis should be placed upon its use by the railroads. All roundhouse and repair track foremen on the Milwaukee, he stated, are now required to inspect every piece of scrap for possible re-use before discarding it. Replying to a question from C. B. Neubauer (Sou.) as to the re-

sults of the arbitration committee's decisions, the chairman explained that the committee received its cases for study after the claims had been settled and its decisions were intended only to avoid rejections and claims in future transactions. Replying to a question from J. V. Miller (C. M. St. P. & P.) for information on the experience in reclaiming zinc from batteries by melting, it was explained that the Chesapeake & Ohio is now developing a method of recovering zinc by melting for as little as four cents a pound.

Report on Forest Products

E. J. Clark, Chairman*

Specifications and procurement of plywood were thoroughly investigated by the committee. As the use of plywood or other lumber substitutes is in a more or less experimental stage, the committee made no definite recommendation. New uses are constantly being developed and the committee suggested that the subject be followed each year by the Division.

Specifications for temporary grain doors and grain door lumber, as adopted by the Transportation Division, were submitted for acceptance by the Division.

Because of the growing scarcity of certain species of timber, and the increased uses of treated forest products, members of the Division were requested to keep well informed of these changes so as to make definite recommendations properly in keeping with changes in source of supply.

Split Ties

Investigation by the committee brought out that some railroads have discontinued the use of anti-checking irons, and instead are using steel bands and drive screws, or dowels, after checking. The committee recommended that the reclamation of split ties be encouraged and suggested that the subject be investigated next year.

Lumber and Ties

The committee submitted a questionnaire to 20 railroads, as follows:

1. Do you specify the manner in which your lumber should be loaded at the mill to reduce hand labor through the application of mechanical devices in unloading? 2. State how you care for your lumber when received. Is it all piled under a roof, or is some of it piled in the open? If the latter, what practice do you follow in protecting lumber from the weather? 3. In ordering kiln-dried lumber, do you specify maximum moisture content? Do you make moisture tests at the mill or destination, and by what method is the moisture test made? 4. When ties are loaded at points of production, what separations, if any, are made as to specie and size? 5. In storing ties, what method is followed in separating ties for seasoning? 6. Are all handlings by manual labor, or do you employ mechanical devices in loading or unloading ties? 7. What method do you use in distributing treated ties from the plant to points where ties are to be used?

A complete analysis could not be made for the committee's report.

The report was presented by H. E. Warren (G. M. & O.) in the absence of the chairman who was prevented from attending the meeting.

Report on Trucks and Buses

C. R. Holmes, Chairman†

The committee found that there is a lack of interest among purchasing agents and storekeepers in the operation of highway vehicles, even though their railroad is the owner, and the committee proposed that on all railroads where purchasing and stores departments do not handle material and supplies, a study should be made as to the advisability of their functioning for the highway motor vehicles in the same way as they do for other material. Some roads hold the general purchasing agent and general storekeeper responsible for the purchase of bus and truck material and find that the plan is a decided improvement over the practice of a separate organization for the highway vehicles.

A study brought out the fact that most of the bus tires are purchased on a mileage basis, and that truck tires are purchased outright. Some roads have a run-out clause, others a buy-out clause. It was recommended that unless the buy-out clause can be reduced to a low price, the contracts should contain a run-out clause so that, if it desired to give a new contract to some other tire company, a cash settlement will not have to be made on the old contract.

Some roads have their own lubricating oil specifications, and feel that this gives them a wider market on which to purchase. Other roads follow the recommendations of either the vehicle manufacturer or some oil company.

The committee found that on several roads, with the newer equipment, the oil is not changed as frequently as in the past. One road, after considerable study, changes oil at 5,000 mile intervals. Another road changes oil only when the motor is overhauled. This eliminates the necessity of reclaiming oil.

Motor bus scrap is worth serious attention, particularly under present conditions. Often there is considerable aluminum in the scrap. At the present time most roads sell their highway motor vehicle scrap locally and the buyer either has to truck or freight it to market, while if it is turned over to the railroad and consolidated with other scrap, a considerably better price might be obtained.

Report on Fuel

P. A. Hollar, Chairman*

The 1940 report stated that minimum prices were recommended by the Board of Examiners of the Government. These prices were not made effective until October 1, 1940, and were generally the same prices recommended to the director last April. Too little time has elapsed to determine accurately what the annual increased cost of fuel will be to the carriers as a result of these prices, but certain statistical data, compiled from reports of the I. C. C. for recent years, are included in the table.

Average Cost of Railroad Coal at Mines Per Ton

1940	U.S.	E.Dist.	Poco.Reg.	Sou.Reg.	W.Dist.
July	$1.88	$1.88	$1.96	$1.88	$1.86
August	1.87	1.89	1.95	1.88	1.81
September	1.87	1.88	1.96	1.87	1.83
Weighed Average	1.873	1.885	1.960	1.876	1.832
October	1.91	1.95	1.96	1.90	1.83
November	1.90	1.95	1.99	1.91	1.80
December	1.90	1.94	1.96	1.91	1.79
Weighed Average	1.903	1.949	1.969	1.907	1.805

The prices to some roads or regions have increased substantially in excess of the average. In the New England region, the average cost of coal was $1.56 in July, $1.55 in August, and $1.49 in September, and the three months average was $1.53. It was $1.72 in October, $1.96 in November, and $1.94 in December, and the average for three months was $1.87. This is an increase of 34 cents a ton, compared with the increase in the Eastern District of 6.4 cents a ton.

The committee is of the opinion that each carrier should give careful consideration to protective supplies of coal, to be stored probably on the ground and accumulated during periods when the supply is more plentiful. The purpose of this is to conserve the car supply during periods of particularly heavy demands for coal, to level off to some extent periods of demand which may exceed the mining capacity, and as a protection against possible suspension in mining.

The committee has also considered the possible advantage of dividing consideration of the general subject of fuel into two

* Chief lumber inspector, Chicago, Burlington & Quincy.
† General Storekeeper, Atchison, Topeka & Santa Fe.

* Assistant Stores Manager, Pennsylvania.

Locomotives Owned or Leased
(A.A.R. Car Service Division)

	1936	Steam	Diesel*
1936	12/31/36	44,035	177
1937	12/31/37	43,432	251
1938	12/31/38	42,467	343
1939	12/31/39	41,036	541
1940	12/31/40	39,855	815

* Prior to 1940 Gas-Electric locomotives were included.

Over 65,000,000 bbl. of fuel oil were purchased by the railroads in 1940 and over 81,000,000 gal. of Diesel oil, or a total of about 2,800,000,000 gal. of oil for fuel.

parts, one relating to coal and the other to oil. It is felt that the preponderant use of coal in some sections of the country and of oil in others results, to a great extent, in the exclusive use of but one fuel by an individual carrier. This leads to the conclusion that better consideration of the entire subject would be obtained by organizing the committee in two sections, one to consist of members familiar with coal and the other section those familiar with oil.

Cost and Consumption of Fuel

Compiled from Reports of the I. C. C.

	United States	East. Dist.	Poca. Reg.	Sou. Reg.	West. Dist.
	Average cost of coal per net ton (at mines).				
1937	$1.89	$1.90	$1.90	$1.85	$1.88
1938	1.92	1.93	1.97	1.90	1.89
1939	1.91	1.93	1.98	1.89	1.86
1940	1.88	1.91	1.96	1.89	1.82
	Net Tons Purchased and Produced:				
1937	95,444,711	46,179,243	5,313,111	14,969,597	28,982,760
1938	77,426,927	36,108,217	4,318,114	12,762,712	24,237,884
1939	85,132,845	41,153,760	4,545,079	14,170,439	25,263,567
1940	91,731,870	44,920,453	5,204,136	15,428,673	26,178,608
	Average Cost of Fuel Oil Per bbl. of 42 gal.				
1937	$.96	$1.51	$1.56	$1.20	$.94
1938	.91	1.29	1.55	1.07	.90
1939	.83	1.22	1.37	.98	.82
1940	.83	1.34	1.42	1.17	.81
	Fuel Oil Purchased, bbl. of 42 gal.				
1937	68,685,224	1,691,480	26,631	1,029,935	65,937,178
1938	57,137,618	1,399,093	18,398	937,999	54,782,128
1939	61,073,965	1,641,540	31,592	993,761	58,407,072
1940	65,197,799	1,730,261	32,860	1,024,174	62,410,504
	Average Cost of Diesel Fuel per gal.				
	Cents	Cents	Cents	Cents	Cents
1937	4.39	5.02	...	4.73	4.08
1938	4.44	4.67	...	4.86	4.28
1939	4.29	4.29	5.27	4.46	4.25
1940	4.37	4.63	4.54	4.77	4.16
	Diesel Fuel Purchased, gal.				
1937	25,470,248	7,277,003	.....	1,718,327	16,474,918
1938	34,842,982	10,963,881	.....	2,491,834	21,387,267
1939	48,754,423	13,554,335	248,067	6,107,221	28,844,800
1940	81,195,443	18,716,383	835,054	12,870,932	48,773,074

Purchasing Rules

The committee proposed revisions in the instructions for handling locomotive fuel for inclusion in the manual. According to these rules, all coal should be purchased by the purchasing agent or other designated officer, in accordance with existing specifications based on the best estimates of consumption available. All coal should be subject to inspection at the mines or elsewhere, by the buyer's authorized representatives. Shipments should be consigned from the mines to the point of unloading or to designated points for general distribution. The purchasing agent or other designated official should arrange for the purchase and the shipments of sizes and quality suitable for storing. Coal shall be weighed on the same scales and in the same manner as commercial shipments. Where weighing is done on mine scales under a weighing bureau, the purchasing agent or other designated official should check weigh a number of cars from each mine to determine if the weights check with weights over railroad scales. Mine scales shall be inspected and tested by the weighing bureau or the railroad from time to time as necessary.

The purchasing agent or other officer should receive from each coal company, through the railroad billing agent, daily reports of company coal received. These reports shall be signed by the railroad agent. The designated officer should receive unloading reports from coaling stations or other points at which coal is unloaded, and these reports should be checked against those made by the railroad billing agent.

Report on Purchasing Practices

W. A. Clem, Chairman*

An attempt was made to submit a catalogue of items commonly used by all railroads under Class 29, which includes axles, wheels, and steel tires, but, with the varied descriptions, it was decided that such a list would not be practicable at this time.

Classifying material was practiced by several railroads for a number of years and when the A. A. R. Standard Material Classification was adopted these railroads rearranged their material accounts to correspond with the standard classification. This suggests that the most effective method of developing a standard catalogue should be to have purchase orders include, as part of the description for each item, the stores' stock number prefixed by the standard material classification number. In doing this the railroad would be establishing a catalogue. This reference would soon become known among sellers and would avoid the necessity of writing the description in tracing by letter or telegram. It would soon become generally used between the operating, stores and purchasing departments, and in trying to dispose of surpluses another railroad could readily wire the reference number in which it is interested.

On the recommendations of the Joint Committee of the Mechanical and the Purchases and Stores divisions, the secretary wrote the Association of Manufacturers of Chilled Car Wheels, that the present guarantee applies only when a railroad purchases the wheel and uses it under its own equipment and that this should be changed so that when one railroad pays another railroad the full price for a new wheel which is applied to its equipment through A. A. R. interchange rules, the guarantee on the wheel should be passed on to the railroad to whose car the wheel is applied, so that the owner of the car could make claim for adjustment on wheels failing under the guarantee. The secretary has received a reply that a new proposed form of guarantee will be submitted to the Joint Committee for consideration.

The 1939 report details quantity differentials on a number of items. The committee considered submitting additional items as a corrected list of changes to meet the revisions in prices since the 1939 spreads were published. However, it was decided that the detail prices should not be submitted until conditions become more stable. It was recommended that quantity differentials be watched and, while there are changes in the 1939 details, these changes continue to favor quantity buying.

The committee proposed several minor revisions in rules for inclusion in the manual.

Report on Railroad Made Materials

G. D. Tombs, Chairman†

The committee reviewed reports on the control of shop-manufactured materials for the past several years and concluded that the reports are quite exhaustive and reaffirmed the fundamentals included in previous reports, with particular reference to the recommendation that whenever the purchase of new machinery or equipment is contemplated for manufacturing material in railroad shops, a joint investigation should be made to determine whether it would be more economical to purchase the items to be manufactured.

Changes were proposed in several forms and revisions were recommended in the standard rules for manufacturing and repairing material. The new rules propose that all orders made by the storekeeper on the shops for the manufacture or repair of material will be known as "Store Orders." Separate store orders will be made for the manufacture of stock material for the different store stock classifications. No material should be manufactured in shops without a properly approved store order from the store department, except material required for immediate use on work actually being done in the shops, such as repairs to cars, locomotives, shop machinery, tools, etc. The bridge, building, track and other departments should make requisitions on the

* Purchasing Agent, Reading.
† Division Storekeeper, Illinois Central.

storekeeper in the regular way, and the latter shall make store orders if necessary, except for material for immediate use in the shops. Standing or monthly store orders should bear the same order number throughout the year and may cover the manufacture of certain items of standard material which are continually in process of manufacture, such as castings, car material, bolts, forgings, etc., against which sub-orders must be issued, specifying the quantity and description of the items required.

All material manufactured for stock should be covered by store orders and all special items of material to be repaired and returned immediately to service should be repaired on an order from the storekeeper when the cost is required, or charges are made direct to the account affected, except material for immediate use in the shops.

All store orders for items to be manufactured, whether for stock or special use, should be described the same as orders for purchase. Each store should number its orders consecutively each year. Prefix letters may be used with the number to designate the different orders, as orders for material manufactured for stock, material repaired for stock, or material manufactured or repaired and charged direct to account affected. All material used in the manufacture and repair of material on store orders should be drawn from the storehouse by requisition.

Manufacturing Costs

For comparison with purchase prices, the items of cost in the manufacturing costs should include material, labor and overhead, the latter including material store expense, shop expense, depreciation, insurance, interest, taxes, maintenance, injuries, bonuses, supervision, proportion of clerical expense and proportion of office supplies. Manufacturing should be centralized so far as practical, providing quantity production and lower costs. Cost comparisons manufactured by railroads should be on the basis of equal quality, material and workmanship, as compared with outside manufacturers.

Report on Storage Facilities

S. P. Warmack, Chairman*

Investigation of methods used in loading and blocking mounted car wheels discloses that roads shipping mounted wheels in open top cars were conforming in a modified form to the A. A. R. loading rules. One railroad uses a triangular block on each outside wheel, also U rods and end blocks. A few railroads are using ordinary open top cars for handling mounted wheels but most of them use special wheel cars, some single decked and others upon which as many as 46 pairs may be loaded. Photographs showing some of the methods in use were presented and the committee recommended using a type of car that does not require any blocking, yet will not damage wheels or axles in transit in preference to using regular open top cars.

A Mechanical division's recommendation regarding the storage of tires was referred to the various group chairmen to ascertain the number of railroads which place blocks between tires when storing them. A number of replies were received and none of these roads conform to the tire manual in this respect. One railroad reported that this use of blocks between each tire would make a pile unsafe.

The committee did not recommend placing blocks between each tire when in storage.

Some roads are now using pallets with fork-type lift trucks and the committee recommended that any railroad contemplating the purchase of power lift trucks should consider a type of truck that will handle both pallets and box skids. Some industries now ship material on pallets with metal strapping, the pallets being made of inexpensive lumber. One railroad has concluded arrangements with a grease manufacturer to ship driving journal grease in bundles of ten cartons, secured by metal strapping with two cleats placed under each bundle to facilitate unloading with fork trucks.

In view of world conditions and the need for cars in the national defense program, the committee stressed the importance of prompt unloading of cars containing company material, of expediting the movement of such cars and giving particular attention to capacity loading.

* General Storekeeper, International-Great Northern.

Cars for Wheels on Axles
Top to Bottom—International-Great Northern, Nashville, Chattanooga and St. Louis, Illinois Central and Seaboard Air Line

New Handling Rules

The committee submitted revised material-handling rules for inclusion in the purchasing and stores manual. Portions of the rules follow.

Racks for storing material should be open, either wood or metal, equipped with standard label holders. Where space is

sufficient, the top storage shelf should not be more than six feet high. Where small supplies of various kinds of oil are used at outside points, and when these supplies can be shipped in company owned drums, such drums may be used as storage tanks for the disbursement of oils direct by using a barrel pump. Where the consumption of each kind of oil ranges from 60 to 240 gal. per month, suitable storage tanks with pumps should be provided so that drums can be released and returned promptly.

Purchasing ice at various locations from ice companies and delivering to the point of use was recommended. Where ice is required for passenger cars, deliveries should be made to the stations at which cars are re-iced and placed on trucks so that they can be moved readily to points where the re-icing of trains is done. Consideration should be given to locations where ice companies can make deliveries direct to cars to save re-handling. The time of delivery should be scheduled as closely as possible with the time that ice will be placed in cars to avoid loss from melting.

The committee did not approve the recommendations of last year's committee with respect to the change in Connecting Oil Houses with Storerooms. It proposed the elimination of the recommendations favoring skylights in store house construction, being of the opinion that the use of glass blocks in the construction of new facilities would give better results, or if factory lighting is used in the construction of the building, skylights would not be necessary. It proposed eliminating the previous recommendation to use a chute in basement construction, explaining that with present-day methods of handling materials, a chute is no longer desirable.

Bridge and Building Materials

The committee submitted excerpts from a report of the American Railway Bridge and Building Association on bridge and building materials. According to the report, 20 roads, representing 94 per cent of the mileage reporting, store their bridge and building materials at central points while 4 roads use local storage yards. The stores department controls the materials on 20 roads, the maintenance department on 4. Seventeen roads, representing 65 per cent of the mileage reporting, furnish the stores department with forecasts of materials required on an annual basis, and 4 on a semi-annual basis, while 4 other roads, or 30 per cent of the mileage, furnish no forecasts. Twenty-two roads, or 92 per cent of the mileage reporting, have experienced no delays to work on account of deferred material deliveries. On 13 of the 24 roads reporting, or 68 per cent of the mileage, the stores department is furnished by the maintenance department with a program of anticipated work on the larger improvement and replacement projects, arranged in order of precedence. All stores departments stated that such information is, or would be helpful and convenient, in arranging to have materials ready for delivery. They also stated that in many instances this should result in a considerable decrease in the stocks of materials that must be kept on hand far in advance of the time that the various projects are to be undertaken. The conclusion was that cooperation between the stores and bridge and building departments has almost reached the apex of efficiency, to such an extent that it matters little to either department where the jurisdiction of the other ends.

Report on Stationery and Printing

B. D. Melgaard, Chairman*

Expenditures made for stationery and printing, by Class I Railroads for the last several years are shown below as follows:

1926	$28,418,710	1934	$12,884,000
1927	26,840,000	1935	12,334,000
1928	25,638,000	1936	14,011,000
1929	25,567,000	1937	16,431,000
1930	20,300,000	1938	12,958,000
1931	18,500,000	1939	13,915,000
1932	14,400,000	1940	14,502,000
1933	11,628,000		

The committee urged the adoption of the recommendations of previous committees to obtain a common standard for printed letter-heads, plain paper for inter-company correspondence, second sheets, carbon paper, mimeograph paper for general use, and printed forms.

Savings of 23 per cent are possible through the use of size 7½ in. by 9½ in. instead of 8½ in. by 11 in.

The elimination of inactive forms can best be accomplished by coordinated efforts. A thorough check of stores stock will determine if the form is being used. If there has been no demand, a stationery standardization committee should make an investigation and final decision. If such a plan is followed currently, any large accumulation of inactive stock can be avoided.

The committee found that on a number of railroads it is not only economical but advantageous to reduce working time cards so that when they are folded they approximate the size of standard time table folders, enabling operating men to carry them conveniently in their pockets. Some roads have found it economical to print separate rules for each operating division in the same size as the working time cards, thereby eliminating the necessity of reprinting these rules each time a working time card is printed because of change in time scheduled. If the cards are printed in one color on 20 white sulphite bond, annual savings of 50 per cent are possible.

Operating departments are now more favorable to the smaller size than the larger size.

Train Orders

It would be better for the Operating division, which is more familiar with the requirements of train order forms, to decide on the standard size of train orders, but the committee, in analyzing the various sizes used by many railroads, believes that a compromise size of 7 in. by 7½ in. would meet all requirements. A standard size clearance card 4 in. by 6 in., or smaller, was recommended. The harmonizing of bills of lading, waybills, and shipping order forms was thoroughly discussed and it was the general opinion that the committee could not make any recommendations regarding them at present.

Because of the low trade-in-value of typewriters, some roads have found it economical to have all typewriters turned over to the stationery storekeeper for minor repairs and use these machines as relief machines, or at small stations where typewriters are not required regularly. Typewriters not warranting repairs should be held by the stationery storekeeper until he has accumulated several machines which can be sold to the highest bidder.

A central mailing bureau should prove advantageous in offices where a large volume of mail is handled. Various systems of accumulating mail in central mailing bureaus can be worked out, depending upon the number of different departments involved. A tube or chute system is the quickest, providing the bureau is located in a large office building where various departments may be located on several floors. Where this is not practical, office boys can deliver an accumulation of mail at intervals during the day. A central mailing bureau not only tends to speed up the getting out of the mail, but is also a factor in envelope and postage savings, and should also facilitate the use of multi-address envelopes.

Stationery Rules

The committee proposed a revised form of instructions for handling stationery, some of which are as follows:

Contracts for stationery supplies or printing should be made by the purchasing agent or other designated officer. All stationery should be handled by a storekeeper directly under the jurisdiction of the chief stores officer. Requisitions to replenish stock should be made either on the purchasing agent or some store. Monthly requisitions should be made, and intermediate requisitions when necessary. All requisitions, whether on the purchasing agent or other stores, shall be sent to the chief stores officer for check and approval. Printing of new forms or changes in old forms should be done only upon request of heads of using departments. All forms should continue in use until authority is received from the proper officer to discontinue them. The chief stores officer should dispose of surplus obsolete forms. Care should be exercised in handling, storing, and packing stationery to avoid damage and waste, and strict economy should be prac-

* Assistant to Purchasing Agent, Chicago, Milwaukee, St. Paul and Pacific.

ticed in its use. Printed forms should not be used for other than the purpose for which they are intended.

Keeping Up Stock

Stationery stock should be maintained through the medium of a stock record. Items in the stock record should be arranged in numerical order by form number. Miscellaneous items not having form numbers should be entered in alphabetical, numerical and size order. Stock items shall be arranged on the shelves in the same order as they appear in the stock record. Every item of material carried in stock shall be listed. Monthly inventories should be taken in the stock record direct. Forms used exclusively by one officer shall not be carried in stock, the supply printed being delivered to the officer.

Report on Fire and Safety

H. J. Blum, Chairman*

Total railroad casualties and injuries in 1938 were only 10 per cent of those in 1913, prior to the start of the "safety first" movement. The most prevalent injuries are injured feet and legs, injured hands and arms and sprains and strains. Reported causes of these injuries are dropping heavy material, material slipping from hands, lack of agility, material falling from piles while being placed or removed, splinters from handling lumber, slipping on icy ground, sharp projections or edges on material being handled and hands caught between truck handles and doorways. In practically all cases these injuries were reported as avoidable.

In the stores department, the foreman is the key man in accident prevention. One of the paramount duties of a foreman is to select men who are physically and otherwise fitted to do the job to which they are assigned. Bulletin board reports should be made of injuries, including the name, occupation and location of the injured, the nature of the injury and what should be done to prevent their recurrence.

Fire Prevention

Observance of the fire rules reduced the fire loss per mile of railroad from $54.40 in 1920 to $16.22 in 1938, or approximately 71 per cent. On 67 railroads, storehouse fires in 1938 numbered 30, with loss of $206,878, while the same roads in 1935 had 35 fires and a loss of only $14,724. Many were preventable. Carelessness in smoking produced 8.4 per cent of the loss in 1939 and, beyond doubt, entered into many of the "unknown" causes.

The committee presented a revised set of safety and fire prevention rules for inclusion in the purchases and stores manual. Portions of these rules follow.

Acids and caustic material should not be handled without rubber boots, rubber gloves, goggles, etc. Containers must be tight. Handlers should be familiar with their danger. Different kinds of acids must not be mixed. Acid containers should be promptly flushed with water. Baking soda should be quickly available as an antidote for acid burns.

Truck Rules

Trucks and tractors should have operators who are physically and mentally competent. Operators should always face the direction in which they are moving. Vehicles should be operated under full control and at safe speeds. Operators should observe caution signs. Stations in shops should be easily accessible. Trailers should be kept out of lanes or driveways when not needed.

Operators using public highways should be examined on state driving laws. Trucks should be equipped with brakes to control any trailing load and should be tested each day. They should not be moved if improperly loaded. Trucks should not carry unauthorized riders. The operating lever should be removed when loading or unloading, when the truck is on an elevator and whenever the operator leaves.

Couplers between motorized units and trailers should be of a type that cannot be uncoupled accidentally. A red signal should be attached to the trailing ends of loads extending over the rear of the truck bed. Gasoline should not be supplied when the motor is running. Guards should be placed around the operator's platform on lift trucks. Coasting with trucks, wagons or trailers should be prohibited.

Clothing

Loose or greasy clothing should not be worn. Gloves should not be worn while working around revolving spindles, such as tapping machines and bolt threaders. Men should be advised of the protection afforded by safety shoes and their use encouraged. Ear coverings that interfere with hearing must not be worn when working around tracks. Leggings should be worn to protect from hot metal when cutting with gas torch.

Gas cylinders, full or empty, should be handled carefully. They should not be stored near furnaces, steam pipes, or other sources of heat. Wire ends, protruding nails, splinters, etc., should be removed.

Men should not stand under locomotive cranes, booms, or in line with chains or cables. Cranes should be inspected daily, and should not drift close to a switch to be thrown. When clearance is small, groundmen should work on the opposite side. Tools and equipment should be prevented from falling. Packing nuts on lubricators and water gage cocks must not be tightened under pressure. Blow-off cocks must not be opened if anyone is near enough to be injured. Worn chains, cables or other tackle should be discarded. Common iron or steel chains should be annealed frequently. Main valves should be closed when making light running repairs to prevent injury from steam leaks.

Scrap

When scrap is being loaded or unloaded, warning signs should be placed to prevent a person from passing between car and pile. No one should attempt to enter a car that is being worked until his intention is made known to the workers. A shield should be provided when cutting off rivet heads, etc., to prevent flying pieces from striking others. When using skullcrackers, precautions should be taken to prevent pieces from broken castings from striking men. Safeguards should be provided to prevent the accidental drop of skullcrackers. Do not pile to a height where there will be danger from falling pieces when sorting. Lids on oil boxes should be closed before handling. Release of tension may cause injury.

Report on Terminal Storekeeping

A. N. Laret, Chairman*

The committee recommended that: proprietary lines appoint a committee each year, to check with the purchasing agent and storekeeper of terminal companies in which they are interested, to help them in handling materials and in any other way possible. Terminal company storekeepers should be invited and encouraged to visit trunk lines storehouses, to view improved material-handling methods and practices. Terminal companies should install some form of stock record, and the ordering of material should be placed on a consumption basis with a monthly check, the orders to be placed after consultation with the using departments.

Surplus or obsolete material should be returned to the proprietary lines from which it originally came; or, if purchased on the recommendation of a proprietary line and the material becomes surplus, it should be taken over by the proprietary line on whose recommendation it was purchased.

Materials to using departments should be delivered by the stores department.

Terminal company purchasing agents should make periodic checks of prices with proprietary lines and such information

* General Storekeeper, Missouri-Kansas-Texas.

* Assistant to Chief Purchasing Officer, St. Louis-San Francisco.

should be made readily available to them by the proprietary lines; also, advantage should be taken of quantity purchases with proprietary lines where possible. Terminal companies should purchase material to the proprietary lines' specifications, and it would be to the advantage of terminal companies to use the facilities of the testing department and inspectors of the proprietary lines to test material purchased.

Items common to all railroads should be purchased by the terminal companies and not obtained from the proprietary lines. Where possible, terminal companies should furnish rolled steel wheels for coaches, either by turning or furnishing new, debits and credits to be made on the basis of A. A. R. rules.

Report on Loss and Damage

J. T. Kelly, Chairman*

The heavy increase in production by reason of the National Defense Program will require greater utilization of freight equipment and the speeding up of shipments will tend to increase loss and damage. Recommendations and the methods prescribed for avoiding and correcting loss and damage to company material should be studied. The Freight Claim department should furnish a list of items that are unclaimed or damaged and which could be utilized profitably by the railroads and the stores department should take action to determine whether such materials can be accepted for railroad use.

Some railroads handle the disposition of unclaimed and damaged goods through the purchasing and stores departments, disposition being obtained for items not adaptable to railroad use by sale to employees or others. The committee endorsed this plan on individual railroads where conditions are favorable.

The recommendations included in the 1940 report were submitted to freight claim and prevention members through the officers of that division. The Freight Claim division has suggested that regional purchasing and stores representatives maintain a continuous and permanent contact with similar organizations of the freight claim loss and damage prevention officers, known as freight claim conferences. There are eight in the United States and two in Canada.

The committee recommended including in the Manual that purchasing and stores departments should be the preferred purchasers of such unclaimed and damaged commercial freight as may be acceptable for railroad use and that shop facilities should be used in repairing or reclaiming damaged freight.

Report on Diesel Engine Supplies

O. L. Browne, Chairman†

The experience of the roads which have been operating Diesel locomotives indicates that in principle the same methods should apply to ordering and storekeeping that apply to other types of equipment.

Diesel locomotives are purchased on a warranty contract, either mileage or time, and during the period covered by the warranty, the storekeeper can discover what parts break down and are necessary to carry in stock. The storekeeper, striving to keep down the investment in materials and supplies and at the same time have on hand materials necessary to keep the equipment operating should remember the remoteness of the source of supply. In some instances the locomotive builder carries a small stock of supply parts at points other than at the erection shop and this plan should be extended and enlarged. Diesel engine parts should be watched closely, as changes are being made rapidly.

After the expiration of the warranty period, terminal companies should carry the entire stock for similar type Diesel engines operating into the terminal and the practice of each road carrying its own separate protective stock should be avoided.

Large savings may be obtained by refining crank case oil removed from the locomotives. In some instances the refining is done by the railroads with special equipment. The refined oil may be used over again after each refining process. The refining is approved by both the locomotive builder and the oil companies. Some roads have used a good quality of white or wool waste in the filter of the locomotives. The filters are changed about every 8,000 miles.

Guarantees

The adoption of Diesel-powered locomotives involves more accounting than is usually required for steam locomotives. Items of material, such as pistons, cylinder liners, cylinder heads, injectors, bearings, etc., are covered by manufacturer's warranty. The mechanical department maintains a record of the mileage made by these parts and they will probably be turned over to the stores department for return to the manufacturer and the preparation of requisitions to cover the transaction. It will be found advantageous to maintain a separate series of requisitions for the purpose, as the action taken with respect to each item returned must be watched closely and necessary adjustments made in the accounts to cover replacements or adjustments allowed by the manufacturer.

Accounting

To avoid confusion in accounting, prices should be adjusted to the basis of new value as replacements will usually be made by furnishing new material and charging for the service life of the article replaced. Special treatment should be given credits for releasements so that excessive depreciation charges will not be made during the period when both the management and the manufacturer will be keeping close watch on the cost of operation. The write-down from new to second-hand value for such items as traction motors, wheels, speed governors, etc., should be amortized over the first year's operation in proportion to the estimated service life of the item. Since special operating statements will be required, probably in advance of the usual date for operating expense statistics, a requisition of a different size or color should be used for material issued covering repairs to this equipment. This method provides a safeguard in the event that mechanics or others fail to indicate the locomotive number or account. It will also aid in separating charges in cases where the accounting office requires a separate invoice to cover these issues.

Some roads pool the charges for repairs to equipment and prorate the expense to participating lines on some agreed basis. In other cases a rental is charged for the use of equipment and the repair costs are borne by the owning line. Through line operations require a substantial protective stock at the terminal line designated to handle the running repairs. Since the repair parts are peculiar to this type of equipment, it is necessary that a somewhat larger stock be maintained than is required for the conventional types of equipment.

Storing and Shipping

Many of the items used on Diesel equipment are subject to weather and should be stored to prevent loss. Gaskets should be mounted on a flat surface so that they will not become bent or distorted. Many items require special care in shipping and storing, to prevent damage. Finished surfaces should be protected from acid fumes. The committee favored carrying protective material but recommended that it should be limited. Material should be centralized as much as possible on the individual railroads and should be moved with the equipment. It was recommended that the items should be entered in the stock books by manufacturers' piece numbers.

Hear Contest Winners

The Division, as in several previous years, held a competition among employees of railway purchases and stores organizations for papers on railway supply work and, from 34 entries, awarded honors equally to papers by Lincoln W. Pratt, clerk to division storekeeper, Erie, Dunmore, Pa., and F. X. Stoll, stock clerk, Sou., Princeton, Indiana, both of whom read their papers at the convention. Papers receiving honorary mention were pre-

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† Assistant to Purchasing Agent, Atlantic Coast Line.

pared by W. R. Prior, general clerk, C. N., Winnipeg, Man.; W. F. Dunn, chief clerk, general purchasing department, Sou., Washington, D. C.; and J. C. Windbigler, company agent, M-K-T, Parsons, Kans. Portions of the winning papers follow:

Employee Relations

F. X. Stoll *

In this modern mechanical age, the stores department employee must keep in constant touch with the ever-changing models and methods of operation which are common to the present day requirements of railroads, so that obsolete and slow-moving items will always be kept at a minimum. No method is more practical than constant relationship between the employees of the stores department, and of the other departments.

In view of this first hand knowledge which is available through this relationship, the officer of the stores department should stress the importance of employee relations with the other employees. By contacts with the using departments, the stores department employee upon whose shoulders rests the responsibility of maintaining the stock, keeps himself posted on the needs and uses of the various commodities which he requisitions and controls. The practical knowledge gained through this means will help free balance sheets from excessively slow moving and obsolete equipment. Frequent visits in the shop develop a familiarity with the quantities required, their importance and value, their wear and the most practical sizes, grades, etc. This gives us the opportunity to canvass stocks promptly to ascertain whether the needed equipment is available. If it is not available, we are then in a position to act promptly to obtain it with the least possible delay. The using departments will be aided materially in keeping their shop output up to schedule, without delays which would result from stock shortage.

Public and Personnel Relations

By Lincoln W. Pratt†

For years business has been putting the emphasis on production and merchandising, but the time has arrived for emphasis on public and employee relations. Likewise, standardization of men, methods and materials have taken up the time of the leaders in business but the world of tomorrow is searching for the man who will study them.

Probably the most vital factor in any business is good-will. Good-will insures receptiveness of mind towards a product, a name or the willingness to follow instructions with a thoughtful and constructive attitude. Railroads are no different than a dry goods store, a manufacturing concern or a hotel of modern proportions. Each has something to sell and each must strive for the good-will that will bring patrons back again and again.

In daily relations with fellow employees, good-will, contentment and service must be handled so that we actually attract patronage. Most men are not mechanical. They respond to fair treatment and they respond to unfair treatment. Morale and loyalty are strengthened by the manner in which fundamental applications of justice are applied.

A sure way to insure loyalty and insure that employees will boost for the railroad to prospective patrons is to show such employees that the management is consciously interested in their welfare and that the importance of their position or duties is recognized. Improvement is best taught by example in daily contact with other humans. The example of an executive giving time to the private lives of employes and their families will do more than teaching. The sales clerk will sell two units where he would ordinarily sell one; the ticket agent will get repeat business where otherwise the first ride might prove the last. Every employee will notice and develop more opportunities to help his railroad. Any plan that will tend to develop pride in an employee's work cannot fail to carry with it interest. A complimentary word now and then will do more to create and maintain loyalty than a prospective pay increase.

* Stock Clerk, Southern.
† Clerk to Division Storekeeper, Erie.

Report on Material Standards

By A. G. Follette, Chairman*

The committee reported that the Mechanical division had circularized the division's proposed standard for emergency knuckles for Type E and Tight Lock couplers. The Transportation division took the position that the number of torpedoes and fusees to be carried by a flagman sould depend on local conditions, such as grade, curvature, density of traffic, etc., and an 18-in. by 18 in. signal flag. In view of the fact that rods for welding are still in a state of research, the Mechanical division decided that a specification should be deferred till the art has become more crystallized. The Electrical section, while acknowledging the need for a specification, stated that the work should be undertaken jointly with the Mechanical division and agreed with the latter that standardization should be deferred for the present.

The Mechanical Division committee will recommend that ½ in. hose for gas cutting and welding should be provided in its specification, as proposed by the division. In view of the fact that oil and solvent-resistant rubber-like materials are still in the research stage, the Mechanical division took the position that specifications for paint spray hose, as proposed by the division, should be deferred until the materials entering into it are more definitely developed. The Divisions specifications for rivet steel and rivets were referred to the Mechanical division and the A. A. R. specification covering rivets and steel for boiler work was revised to cover steel bars and rivets for boilers, locomotive tanks and underframes, passenger and freight equipment cars. As the result of collaboration between the committee and the Signal section, a list of signal lamps on the market was reprinted in loose leaf form and copies were sent to member roads by the secretary, as a guide in eliminating non-standard and inactive lamps.

Simplification

The committee presented a digest of principles for the simplification and standardization of stores stock and the disposition of surplus and obsolete material, for publication in the Purchases and Stores manual. The outline includes proposals that any railroad that would accomplish a maximum of results should establish a definite agency for simplification. The agency, whether a person, a committee or a bureau, should have the backing of responsible executive officers.

The committee reported the number of railroads that received and replied to requests for recommendations for the simplification of various materials during the year as follows:

	Roads Canvassed		Roads Responding	
	Number	Mileage	Locomotives	Cars
Boat Spikes	9	52,000	.....	.....
Brads and Nails	9	52,000	.....	.....
Brake Clubs	34	150,000	.....	1,240,100
Brake Pins and Bushings	31	174,000	31,700	1,240,400
Cotters	33	150,000	27,000	1,165,600
Jack Levers	24	123,000	.....	.....
Steel Sheets	34	151,000	24,400	1,158,500

The results of the canvass were presented. Six-inch boat spikes are used to some extent but the regular six-inch 60d nails should answer the purpose. Steel plates, as commercially classified, were not included in the study. Many sizes of sheets were reported. Fourteen roads buy commercial sizes and shear to the required size in shops. Two roads purchase exact sizes for the purpose required. Three roads purchase exact sizes where the quantity warrants.

Information was not specifically requested on driver brake and spring rigging pins and bushings. However, where furnished, this information was tabulated. As a result, tabulations prepared by the committee are quite complete up to 1¾ in. nominal pin diameter. For 1¾ in. nominal size and up, the information is complete, so far as tender and passenger car brakes are concerned. The bushing list covers a sufficient assortment to be fairly applicable to locomotive spring rigging. Not enough railroads submitted specific information on driver brake and loco-

* General Material Supervisor, Pennsylvania.

motive spring rigging pins to furnish a reliable guide for settng up a standard list.

Information received from the railroads showed 181 combination diameters of pins and cotter holes, 264 combination pin head dimensions and body diameters, 84 combination head dimensions and body diameters common to four or more roads and 1,330 sizes and kinds of pins with diameters and lengths only. It also showed 1,271 kinds, diameters and lengths of bushings, and 37 sizes of special bushings for Diesels.

Clearances of 1/64 in. and 1/32 in. between pin and bushing were reported. The 1/64 in. clearance was reported by five roads. The 1/32 in. clearance is more generally used and is the maximum recognized by Division V. This clearance is generally taken off the diameter of the pin, although a few roads make the pin nominal size and bore the bushing oversize. In passenger car service, the use of hardened pins is general. About half of the roads use pins and bushings ground after hardening.

The reports indicated that, on newer equipment, there is a trend toward the use of hardened and ground pins and bushings. For tenders, and where reported, for driver brake and spring rigging, the use of smooth turned hardened pins and bushings predominates, although several roads use hardened and ground pins and bushings. On several roads, it appears that bushings are made from steel tubing without any refinishing on the inside diameter, the tubing being cut to length and turned on the outside before hardening. This practice is economical where the use of a higher grade of finish is not considered essential.

The tabulation of pin head sizes shows a variety of diameters and thicknesses of round and hexagon heads for a given diameter of pin. This condition should be corrected by establishing a standard diameter and thickness of head for a given diameter of pin, and for pins used with bushings a larger head of proper thickness should be provided that would prevent a loose bushing and its pin from working out of place.

Simplified List—Boat Spikes

Size, Inches	Length, Inches			
3/8 x 3/8	8"	9"	10"	12"
5/8 x 5/8	8"	..	10"	12"

NOTE:—For 6" Spikes, use 60d nails.

Simplified List—Galvanized Sheets

Size, Inches	Gage								
30 x 96....	..	14	16	18	20	22	24	26	28
36 x 96....	12	14	16	18	20	22	24	26	28
36 x 120....	12	..	16	18	20	22	24	26	..
48 x 120....	12	..	16	..	20	..	..	..	..

Simplified List—Steel Sheets

Size, Inches	Gage											
30 x 96.....	..	..	..	..	..	16	18	20	22	24	26	28
36 x 96.....	..	10	11	12	14	16	18	20	22	..	..	..
36 x 120.....	..	10	11	12	14	16	18	20	22	..	..	..
48 x 120.....	8	10	11	12	14	16	18	..	..	..	..	..
60 x 144.....	..	10	11	..	..	..	..	..	..	..	..	..
72 x 144.....	..	10	..	..	..	..	..	..	..	..	..	..

The drawings of brake pins submitted showed no consistent relation between the diameter of the pin and cotter, or between the diameter of the cotter and the hole.

Brake Pin and Bushing Sizes

The Mechanical Division standard specifies standard diameters of pins as well as inside and outside diameters of bushings, but no lengths are specified. Due to the limited number of manufacturers, the variety of threaded end pins is not great. There are, however, some differences. Standards should be established so that, as the use of this type of pin is extended, unnecessary varieties may be avoided.

Prints submitted covered a total of 1,215 sizes of bushings of 84 inside diameters. The total variety of bushings is considerably larger, as some sizes are made in each of the several styles shown. The Mechanical Divisions standard establishes a series of nominal inside and outside diameters for bushings, and provides for acceptance of the manufacturer's mill tolerance for both inside and outside diameters. However, two large manufacturers have entirely different systems of securing the necessary press fits. In one case the bushings are ground to an outside diameter considerably less than nominal, and holes are reamed under this size.

Brads can be purchased in many lengths and diameters, but a small number should meet all requirements of the railroads up to and including one inch in length where the penny sizes start. Above one inch, finishing nails should answer nearly all requirements.

A total of 31 roads purchase commercial cotters without specifying any tolerance for diameters, which generally run less than the nominal diameters given. Holes are drilled the corresponding nominal size. One road specifies diameters that cost about 25 per cent more than commercial cotters. One road purchases commercial cotters, specifying maximum and minimum diameters, without extra cost. Cotter holes are drilled under size to obtain approximately a drive fit. The advantage claimed for this practice is that there is less wear and less loss of cotters in service.

Railroads reported 51 different jack levers, ranging in length from 36 in. to 72 in., the most popular lengths being 42, 54, 60, 66 and 72 in. Three different lengths should be sufficient, with standard contours to suit the lengths, and the proper amount of material on the socket end to permit fitting to the type and size of socket on the jack with which it is to be used.

A new standard for twist drills was adopted by The American Standards Association, A. S. A. B. 5-12-1940. The diameters have been selected from existing stock sizes formerly listed by numbers, letters, fractions and millimeters and are expressed in decimals of an inch. The number of sizes has been greatly reduced but provides for standard bolt and screw sizes and threading holes for all standard threads in the diameters covered. The former terminology, Jobbers length and Taper shank length, have been superseded by Regular Series and Long Series, respectively. The new series lengths are in some cases slightly different from the former lengths. This committee recommended that recommendations submitted in 1935 be revised to add that roads finding it necessary to purchase intermediate sizes should confine them to those listed in A. S. A. B5. 12.

Report on Dining Car Supplies

J. F. McAlpine, Chairman*

The committee again went on record as recommending that in view of the possible economies, all carriers give serious consideration to the suggestion that the general supervision and responsibility for purchasing, storing and issuing dining car equipment, miscellaneous supplies and perishable food supplies,

* Assistant Purchasing Agent, Chicago, Burlington & Quincy.

Commissary Stocks—Year 1940

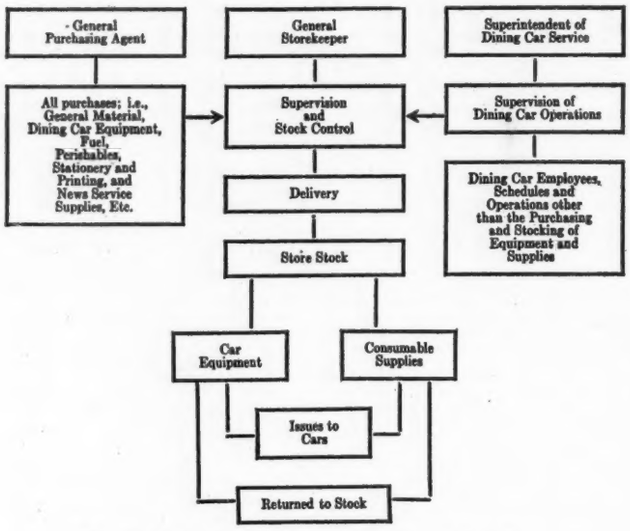
UNDER SUPERVISION OF PURCHASING AND STORES DEPARTMENT RAILROADS

	A	B	C	D	E	F	G
Equipment	$91,037	$27,044	$3,622	$60,785	$2,932	$43,765	$131,203
Consumable items	$19,634	$15,222	$2,995	$18,089	$19,851	$132,135	$120,647
Other supplies	$2,426	382	.....	1,632	547	4,378	9,485
Total book value	$113,097	$42,648	$6,617	$80,506	$23,330	$180,278	$261,335
Monthly disbursements	$53,452	$40,198	$10,000	$38,556	$30,212	$136,555	$144,378
Days' supply	65	32	20	62	23	39	58
Miles of road	23,648	8,958	999	6,814	7,146	8,630	9,898
Total number of cars	199	46	10	48	57	104	114
Commissary stores	10	1	1	2	1	5	5
Employees	25	**12	3	**13	**8	57	40

** Accounting handled by other than stores department.

be lodged with the purchasing and stores department, even though some of the employees, particularly those directly concerned for the purchase of perishables, are carried on the payroll of the dining car department.

Statistics from seven railroads on which dining car supplies are under the supervision of the purchasing and stores department are tabulated.


General Purchasing Agent
General Storekeeper
Superintendent of Dining Car Service
All purchases; i.e., General Material, Dining Car Equipment, Fuel, Perishables, Stationery and Printing, and News Service Supplies, Etc.
Supervision and Stock Control
Supervision of Dining Car Operations
Delivery
Dining Car Employees, Schedules and Operations other than the Purchasing and Stocking of Equipment and Supplies
Store Stock
Car Equipment
Consumable Supplies
Issues to Cars
Returned to Stock

Organization for Handling Commissary Supplies

It was recommended that the single-item record recommended by the Division in 1939 be adopted for use in connection with the control of commissary stocks. The report included recommendations for ordering linens, handling soiled linen, and the record for laundering.

Report on Way Materials

B. T. Adams, Chairman*

The committee's report consisted of a revised set of rules for purchasing and distributing maintenance of way and construction materials which were reported in part as follows: The engineering or operating department should advise the chief stores officer of the amount of material required for approved programs, specifying the dates and points of delivery, also indicating the quantity to be used each month or other designated period. After programs are definitely approved, rail and accessories should be purchased in accordance with specifications. The purchase of cross and switch ties and the necessary arrangements for treatment should be based on ordinary maintenance requirements, approved maintenance programs and prospective construction work. Other maintenance of way materials should be purchased on the basis of stock requirements, supplemented by prospective maintenance and construction programs.

New or re-rolled rail, and rail accessories should be inspected at the mill by representatives of the test department of the railroad, or authorized inspection bureaus. Rail released from track should be inspected, preferably before loading. All track ties, switch ties, bridge ties, bridge lumber, etc., should be inspected at the point of loading, when possible, to avoid transportation or extra handling, and the storage of ties that do not conform to specifications. When not inspected at the point of loading, such inspection shall be made when unloaded. Other maintenance of way materials should be inspected at the point of origin.

New rail should be purchased for delivery to the point of distribution or for storage at a convenient central location. Rail for sale should be loaded in accordance with classification for direct shipment. Cross and switch ties should be shipped to the point of use immediately after treatment. Cross and switch ties used untreated should be shipped from the production point to the point of use. Where this is not advisable, they should be shipped to a central point for storage. Bridge and building lumber should be stored at the point of treatment and shipped as required.

Material should be issued or distributed only on proper requisitions. Deliveries for special programs should be closely co-ordinated with the progress of the work. All maintenance of way materials, as soon as released, should come under the custody of the stores department, which should determine their condition and fix the credit.

Emergency materials should be located and maintained at such points and in such quantities and kinds as may be agreed upon by the stores and operating departments. Emergency stocks, while under the jurisdiction of the stores department, should not be moved or decreased except with approval of the using department.

The stores department should check emergency stocks at sufficient intervals to make sure that they are moved and replenished before deterioration.

At designated locations, such as tool houses, roadmaster's headquarters, etc., the stores department should carry sufficient material for the current maintenance requirements. To accomplish this, close co-operation between stores and maintenance of way officers is imperative.

* District Storekeeper, Illinois Central.

Report on Standard Packages

J. W. Hagerty, Chairman*

Purchasing in standard packages is one of the more recent subjects to be handled by the Division. The first report in 1937 set forth the advantages to be gained by standard packaging and made numerous recommendations. The committee has continued the method of assigning a group of items to a member and holding that member responsible for furthering the matter through contact with the manufacturer. While this had a beneficial effect in the progress of the work, the time required by manufacturers to investigate the many factors which enter into standard packaging has prolonged definite decisions. Further delay has been caused by the unusual conditions existing during the past year because of the defense program.

To obtain the maximum benefits where standard packaging has been adopted, manufacturers should issue circulars outlining in detail just how they are offering their products in standard packages. This information should be entered in the stock book.

Three manufacturers of fibre insulation for rail joints were contacted and the committee suggested standard packages of 100 top plates per package, 100 base plates, 200 end posts per sack or package, 200 washer plates per sack or package, and 200 bushings per small sack.

In view of the fact that all railroads have been experiencing considerable trouble in handling track spikes and bolts because of keg breakage, an effort was made to have the various manufacturers equip kegs with metal cleats. Most manufacturers agreed to equip kegs with reinforced metal cleats, top and bottom, at no additional cost. Several shipments have already been received in this manner. All roads should specify on their orders that kegs are to be reinforced top and bottom with metal cleats.

One manufacturer has agreed to cooperate in investigating how standard packaging might be applied to section motor car parts.

Machine and Carriage Bolts

The manufacturers of machine and carriage bolts have generally agreed upon standard package quantities but the items are being received by railroads in various size cartons, boxes, kegs, etc., and the committee is now endeavoring to have all manufacturers adopt the same standard size package for identical items in addition to the standard package quantities. This subject cannot well be handled with individual companies and has therefore been submitted to the American Institute of Bolt, Nut and Rivet Manufacturers.

* Assistant Purchasing Agent, Pennsylvania.

The advantages to railroads of a standard packaging of locomotive super-heater unit parts, such as shields, supports, bands and header bolts and nuts, was brought to the attention of a manufacturer. The manufacturer furnished a schedule of standard packaging of such parts which would be a decided improvement over the random packaging. The manufacturer will bulletin all of the railroads, announcing its standard packaging schedule.

A canvass of representative railroads suggested packaging copper flue ferrules, as follows:

1¼" to 2"	—500	per carton
2" to 3"	—250	" "
3" to 4"	—250	" "
4" to 5½"	—200	" "
4" to 5½"	—100	" "

One manufacturer has already offered to adopt this arrangement.

Piston Rings

Two manufacturers considered piston rings and one designed a new flat carton susceptible of orderly stacking on storehouse shelves, to accommodate one complete packing ring, and has been shipping rings in this manner for a year or more. The manufacturer has since agreed to a uniform application of the labels. The other manufacturer is now working to supply a carton to accommodate one complete ring.

Although a manufacturer of booster material has been making a study of the possibility of standard packaging, the work has not been completed. Two of the three manufacturers of flexible joints have completed packaging arrangements and have notified the railroads. A third is progressing with arrangements.

One manufacturer of injector nozzles has extended standard packaging to parts for hydrostatic and mechanical lubricators. Another manufacturer has installed a boxing machine and has included approximately 250 injector and lubricator parts for packaging but has not yet circularized the railroads. Two concerns are progressing with the work of standard packaging.

Three manufacturers of stoker material have about completed their study of stoker parts that lend themselves to standard packaging and have submitted tentative lists of the items. The quantity arrangement was left entirely to the manufacturers and their statements are based, as nearly as possible, upon the quantities in which the various railroads throughout the country order such parts. When reprinting their catalogues and repair part lists, the standard package quantities will be included.

Further development of standard packaging of low water alarms was discontinued for the reason that the equipment is not commonly used by the majority of the roads.

Torpedoes and Valves

A survey of the packaging of torpedoes disclosed that torpedoes are being furnished in an acceptable package. The Valve Manufacturers Association and the Pipe Fitting Manufacturers Association have declined to further the proposition of standard packaging A. A. R. valves and 300 lb. pipe fittings. Consideration was given to the advisability of advocating a revised packaging of several other materials but investigation developed that an acceptable type of packaging and quantity count largely obtain and no changes were recommended.

Cross Arm Bolts—Standard Packages

Sizes Through Bolts:	Number per box
5/8 x 8—10—12—14—16	100
5/8 x 18—20—22—24—26—28	50
½ x 8	350
½ x 10—12—14—16	150
½ x 18—20	100
¾ x 8—10—12—14—16—18—20	50
¾ x 22—24—26—28	25

Standard packaging facilitates handling of materials, reduces time in checking and counting materials for receiving records, eliminates repackng costs, saves time in taking stock inventories, affords better protection of materials, expedites filling of requisitions, reduces breakage in handling and re-handling, improves opportunities for taking advantage of headroom space in shelves of storehouse racks, minimizes the need of unit piling and traying of non-packaged materials, and effects savings to manufacturers in avoiding handling, re-handling, re-inspection of parts and final packing of material for shipment.

The report included tables of the quantities of various items of material which are now furnished in standard packages. Channel pins are made in two sizes, the ⅜-in. size coming in lots of 500 pins per bag and 10 bags to a box, while the 9/32-in. pins come in lots of 1,000 pins per bag and 10 bags per box. Splicing sleeves are shipped in lots of 50, 100, 200, 250 and 500 per box, depending on their size. Cross arm bolts are shipped in lots of 25, 50, 100, 150 and 350 per box, according to size. Condulet are classified in 15 sizes and 5 types, with quantities ranging from 1 to 100, depending on the type and size. Pipe clamps are listed in 11 sizes, which are packaged in lots of 10 to 100 according to size. Hand lantern globes are wrapped 60 to a carton. Car seals are wrapped 100 to a bundle and 5,000 to a box. Torch wicking is wrapped in lots of 40 balls. A typical list was given in a table.

Report on Railway Tools

W. H. Lloyd, Chairman*

During the year, the committee considered the list of tools and materials presented for identification marking in 1940 and since adopted by the railroads. Although certain items could be added or deleted, the list of materials and tools included in the 1940 report is comprehensive and illustrates the value of properly identifying railroad-owned materials.

The Division furnished the Protective Section, A. A. R., with a copy of the recommended procedure and the list of materials, tools, etc., for identification marking and the Protective Section included them in a circular to its members.

The committee felt that the marking of materials and tools for identification should not be considered entirely from the standpoint of recovery after pilferage but to discourage pilfering. Attention was also directed to the fact that it is not necessary, in all cases, for railroad materials, tools, etc., to be marked with the name or initials of the railroad, as where such marking might be inconvenient or inconsistent, but that individual serial numbers, etc., applied originally to the article are sufficient to prove ownership.

The committee submitted for inclusion in the stores manual a list of tools which should carry identifying marks, and recommended that all the materials should be stamped or branded, that glassware should be embossed, and that items such as linens, bedding, cushions, etc., should be stenciled if not provided with interwoven identification monograms or lettering. The identification designation used and the location on articles should be determined by the railroad. Where practicable, the articles should be presented in exchange for new articles with the understanding that, in appropriate cases, the chief local supervisor of the using department may approve orders for the new article.

* Service Storekeeper, Chicago, Rock Island & Pacific.

* * *

Yale Lift Truck Loading Street Truck

One of the Newly Equipped Daylight Trains of the Southern Pacific

Southern Pacific Receives 51 Lightweight Passenger Cars

Equipment built by Pullman-Standard is being used in "Daylight", "San Joaquin" and "Lark" trains between San Francisco and Los Angeles, Calif.

A TOTAL of 51 car-body units, some single and others in two- and three-unit articulated combinations, recently delivered to the Southern Pacific by the Pullman-Standard Car Manufacturing Company, Chicago, comprises new car equipment for the well-known "Daylight," "San Joaquin" and "Lark" trains which the Southern Pacific operates between San Francisco and Los Angeles, Calif. The equipment, placed in service July 4, includes the following: two triple-unit diner-kitchen-coffee-shop cars (six car-body units); two triple-unit lounge-diner-kitchen-dormitory cars (six car-body units); two parlor-observation cars; nine chair cars (single units), and 14 articulated twin-unit chair cars, each articulated combination comprising one chair-car body for women and one for men.

The re-equipped Daylight and the San Joaquin trains are finished in an attractive exterior color scheme of orange, red and black; the Lark is finished in two-tone gray. Some miscellaneous chair cars are finished in olive green. The interior color schemes, developed by the Pullman-Standard color and design department, embody a wide variety of pleasing colors in harmonious combinations.

How the Car Equipment Is Constructed

These new Southern Pacific passenger cars are of the usual width outside, the inside width being 5¼ in. wider than standard on the old conventional equipment. The car body framing is made principally of U. S. S. Cor-Ten steel, with Pullman welded truss-type side frames and stainless-steel exterior side sheets. The underframes are of the welded type throughout, with castings confined for structural utility to the assembly of bolsters and buffers. The center sills of special center-sill steel are of the inverted U-type, extending the full length of the cars, with a spread effect at the ends, terminating at diaphragm posts. All floor supports and side sills are pressed Z-members of nominally light-gage, metal bound crosswise of the car, with uniformly spaced sheet-steel pressed members, all welded together. Below the side sill, a semi-elliptic apron sheet obscures the underneath

Observation-End of the Lark

equipment. The apron is made in continuous hinged sections between trucks, which is a distinct convenience and safety measure for servicing equipment underneath cars by yard crews or operators.

The truss-type side framing is constructed of vertical and diagonal pressed-steel members, principally channel shaped, all securely welded into a unit. Side sheathing is of stainless steel, corrugated except for the window stretch which is flat.

Center and outer diaphragms at the ends of the cars close the openings between the car bodies. The roofs are oval in shape, constructed of U-type carlines, with several pressed Z-shaped purlines and flat roof sheets, all made of light-gage alloy steel, fabricated by spot-welding, thus affording a light but rigid roof structure. Each car structure is designed to comply with A. A. R. recommended strength requirements.

The flooring is composed of specially pressed aluminum sheets, having the top depressions filled with cork strips, above which is applied corkboard insulation, covered with either rubber tiling or carpet. In the kitchens and pantry, the cork is covered with Monel metal. The superstructure is thoroughly insulated with 2-in. materials. Fiberglas and Stonefelt insulations are each used on approximately half of the number of cars built.

A. A. R. tight-lock couplers are used at all ends not having the articulated feature, except the rear-end observation car which is equipped with a lightweight A. A. R. coupler. Waughmat rubber draft gears are installed. Platform entrances are at one end only of each coach, with steps of retracting type operating in conjunction with trap doors and invisible when the vestibule doors are in closed position.

Triple-Unit Diners

The triple-unit designed for dining service is novel in that the center section is entirely devoted to kitchen and pantry service with an unusually large kitchen at the center and a pantry at either end. The kitchen serves the adjoining body units, one a dining room with seats for 72 and the other a coffee-shop with seats for 80 persons. Openings between the three body units are commodiously wide for passage of service personnel and create the illusion that the three units are a single car body.

The other triple-unit car is designed for dining and cocktail service. In the forward section of this unit is the kitchen and pantry; the center section has accommodations for dining and cocktail service, and the rear section has bar equipment and seats for the bar patrons.

At the articulations of the triple-unit cars are six-wheel trucks. All the other cars have four-wheel trucks of the triple-bolster type. The six-wheel trucks are of the drop-equalizer type. Simplex unit-cylinder clasp brakes are arranged with truck-mounted air-brake cylinders and double brake heads having four shoes per wheel. Truck frames are of cast steel, supplied by the General Steel Castings Corporation. Journal boxes are also of cast steel of the friction type, but of such size as to permit the subsequent application of roller-bearing boxes, if desired.

Axle journals are A. A. R. standard 6-in. by 11-in. and 6½-in. by 12-in., to suit varying weights of car ends. Journal lubrication is of the self-contained wick type developed by the railroad.

The air-brake equipment on the entire train is Westinghouse H. S. C. type with electro-pneumatic straight air control and individual governor control. The latter functions to graduate the application force of the brakes as the speed is reduced to maintain a uniform retardation rate until the train is stopped.

Additional brake development is represented in the application of hand brakes throughout the train. While the hand brake is designated as a safety appliance feature and usually required to develop only such effort as would effectively hold the car while parked in a coach yard, the installation of hand brakes on this equipment is such as will develop sufficient effort to control a fully loaded train at what are now considered moderate speeds. The application of hand brakes to the three-unit dining cars

Inside One of the Women's Coaches

The Center Car Body and Two Articulated Connections of One of the Triple-Unit Cars

The Lounge Section Has Fluorescent Lights and Multi-Vent Ceiling Panels

is of special interest, in that successful connection has been made between the car structure and a six-wheel truck under an articulated connection.

Water is carried underneath the cars in stainless-steel cylindrical tanks to suit the various classes of cars. The unusually large supply of water demanded for dining-car service conditions in the kitchen of the triple unit coffee shop-kitchen-dining car requires storage for over 900 gal. of water underneath and, in addition, 120 gal. of hot water inside the kitchen.

Car doors, both exterior and interior, are Plymetl except vestibule side doors and kitchen loading doors which are made of stainless steel. Locker doors in the kitchens and pantries are of Monel metal. All sash are double in one part, with the outer in fixed position, while the inner sash can be swung inward and upward for cleaning purposes. All sash are constructed of aluminum extrusions and left in natural color with a satin finish. Sash have rounded corners and are glazed with ¼-in. safety glass on the inside and ¼-in. polished plate glass on the outside sash.

Features of the Waukesha Air-Cooling Equipment

All cars are fully air-conditioned, using the Waukesha seven-ton, ice engines, with Waukesha standard subcoolers. The air-cooling equipment is engine driven, with each Freon compressor directly connected to an internal-combustion engine working on propane fuel. The system includes condensers, evaporators, combined dehydrator-filters, heat exchangers, expansion valves, controls, etc. The sets are mounted on special rubber vibration dampeners and may be easily withdrawn from under the cars for inspection and repairs without disconnecting fuel, water, refrigerant, or electrical connections. The vibration dampers are an improvement which includes the regular spring wheels on a track which is in turn mounted on rubber in shear. The fuel supply is carried in an easily accessible two-cylinder cabinet under each body unit.

Overhead air-cooling units are of the Pullman type with outlets for cooling air in all passenger compartments in the deck of the car. To facilitate cleaning, the deflection members with lighting troughs attached underneath are hinged to give ready access to the ducts. The kitchen also is air conditioned, with special units in each end cooling the passageway and pantries and with flexible duct connections to the adjoining body unit.

Heating is of the Vapor zone-control type, thermostatically operated, the overhead heat functioning in conjunction with the air-distribution system, which circulates fresh or cool air when heating is not required. Floor heating is supplied by the unit fin-tube system. Both heating and cooling are governed by Vapor thermostat controls.

Electric power for train lighting and other purposes is also obtained from a Waukesha propane engine, directly coupled to a 7½-kw. 40-volt d. c. generator unit mounted under each car and connected to auxiliary stor-

age batteries of the Edison A-16-H and A-20-H types. Propane fuel for the engine is carried in a four-cylinder cabinet suspended from the car underframe.

To minimize battery flushing and fuel consumption with Edison batteries, an auxiliary control panel is used in conjunction with the standard engine-generator panel. It consists of a sensitive voltage relay with normally open contacts connected in series with the generator regulator potential coil. The battery voltage rises as it becomes charged and the voltage relay is set to pull in at a given voltage, representing an approximately fully charged battery. This causes the voltage relay contacts to close, energizing the generator regulator potential coil, which is set to regulate at a reduced voltage, and a correspondingly lower charging rate. The low current relay on the engine-generator panel is set to stop the engine-generator at a fully charged current value corresponding to the reduced voltage, plus the minimum continuous car electrical load when in service.

General Illumination By Fluorescent Fixtures

All cars are well lighted with a combination of incandescent and fluorescent lamps. Incandescent or Mazda-type lamps are used only in vestibules, toilets, step lights, signal fixtures, and in kitchens and pantries.

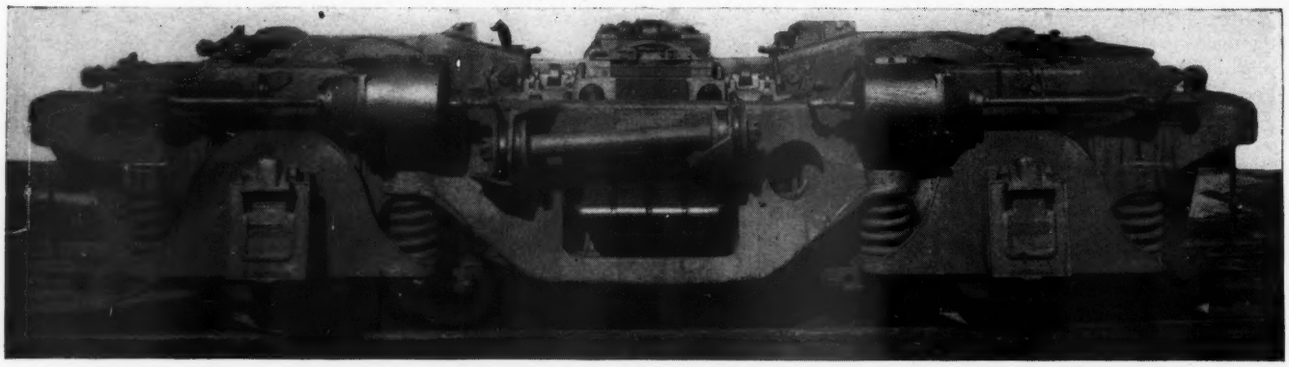
General illumination for the passenger compartments is supplied by fluorescent-type fixtures. In the main compartments of the chair car classes, this is accomplished by a continuous center ceiling fixture extending the full length of each compartment. These fixtures have 24-in. and 18-in. 3,500-deg. white-type fluorescent tubes, operated separately from 115-volt alternating current. The fluorescent light troughs are suspended below the air duct.

A 32-volt d. c. to 115-volt a. c. 60-cycle motor generator suspended under the car, supplies the power for the fluorescent lamps. This set is rated at 1,200 watts. The speed of the motor-generator set is maintained within the necessary limits, regardless of the battery or main generator voltage. The starting contactor for the d. c. motor is wired through one pole of the double-pole circuit breaker switch for each fluorescent light circuit—therefore, any one of the circuit switches will start the motor generator set. The second pole of the circuit switch is used to break one side of the a. c. circuit to the lamps.

Equipment for radio and public-address systems is available in all cars except cars with kitchens. Out of the total of 51 cars, twelve have radio receiving sets and a microphone. The radio and public-address systems in each body are independent units. However, the arrangement is such that the radio speakers are automatically silenced when the public-address system is being used.

Extending an innovation used on recent new Daylight trains, chair- and parlor-car classes are designed with

Decorative Treatment and Chair Arrangement in One of the Observation Ends



One of the Four-Wheel Trucks

Parlor End of a Parlor-Observation Car

luggage compartments at the entrance ends. Instead of taking suitcases and other passenger luggage into each car through an end door in the conventional way, this baggage is placed in a luggage compartment through a door in the side of the car, then raised before the train starts so as to be accessible from inside.

Each compartment has two shelves which are raised and lowered by four motor-driven screws, one located in each corner. The operation of the shelves and the outside door is controlled from a push button station on the outside of the car. Protection is obtained with limit switches. In transit the main motor supply breakers must be shut off inside the car to prevent meddling with the push button at wayside stops. If the outside door should be left open by mistake, a red light shows inside the car and the porter may lower the door by pressing a push button installed for this purpose. The luggage loader may also be operated by a hand crank. Access to luggage lockers from inside of car is had through ingeniously designed roller-type doors constructed of extruded aluminum moldings.

Special Provision for Garbage Disposal

For disposal of garbage in pantries and in the car, a specially constructed compartment, developed by the carbuilder in collaboration with the railway, permits collecting refuse in a chamber underneath the car, from which it is removed with a dumping device into containers at terminals or intermediate points. It is thus unnecessary to enter the cars for such servicing.

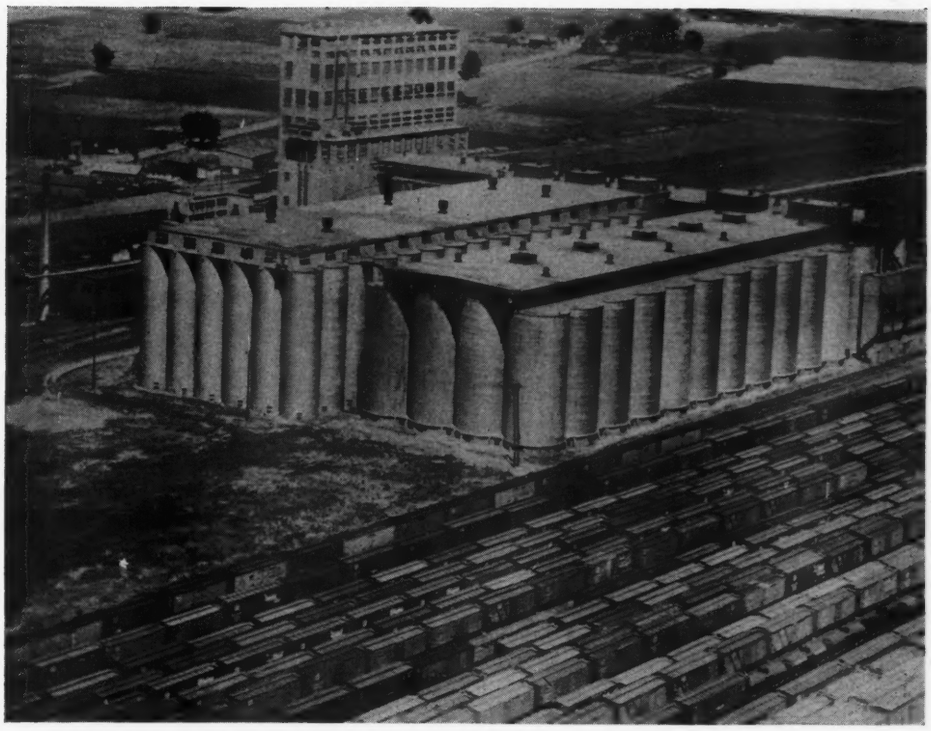
In the kitchen Monel-metal equipment is used almost entirely. The Monel-metal floor in the kitchen and both pantries is laid so as to form one pan on which all the equipment is placed, thus affording maximum protection of underframe structure and underneath equipment by minimizing the drainage outlets.

Chair cars have twin reclining revolving chairs with bright chrome-finish tubular structural members. Parlor cars have a new design of revolving, reclining, single-seat parlor chairs with frames of satin-finished aluminum tubes. All chairs in lounge rooms and observation rooms are likewise constructed of aluminum. Sponge rubber is used in all chair and sofa cushions.

Each of the two observation-parlor cars is designed with a curved observation end. On the hood, there is a streamline back-up light. Built into the rear door is a flush tail sign, having the special insignia of the train illuminated with Neon. Accommodations in this car include writing desk, magazine tables, table lamps and provisions for connection with the local city telephone system.

Partial List of Equipment and Materials on the 51 Cars for the Southern Pacific

Cor-Ten steel	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Stainless-steel sheathing	Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
Metal-covered plywood	Haskelite Manufacturing Corp., Chicago
Insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo. Johns-Manville, New York
Table tops, window capping, etc.	Formica Insulation Co., The, Cincinnati, Ohio
Lounge-car bar	Liquid Carbonic Corp., Chicago
Window sash	Hunter Sash Co., Inc., Flushing, L. I., N. Y.
Window glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Ice-engine unit; propane engine generator set	Waukesha Motor Company, Waukesha, Ill.
Batteries	Thomas A. Edison, Inc., West Orange, N. J.
Heating equipment and air-conditioning controls	Vapor Car Heating Company, Chicago
Lighting fixtures	Adams & Westlake Co., Elkhart, Ind. Luminator Company, Chicago Safety Car Heating & Lighting Co., New Haven, Conn.
Marker, backup and step lights, battery-charging receptacle, multi-vent air delivery ceiling panels	Pyle National Company, Chicago
Washstands	Crane Co., Chicago
Hoppers	Duner Company, Chicago
Upholstery	L. C. Chase & Co., New York Collins & Aikman Corporation, New York Massachusetts Mohair Plush Co., Chicago
Chairs	Coach & Car Equipment Co., Chicago General Fireproofing Co., Youngstown, Ohio Heywood-Wakefield, Gardner, Mass. S. Karpen & Bros., Chicago
Air brakes	Westinghouse Air Brake Co., Wilmerding, Pa.
Hand brakes	National Brake Company, New York
Truck frames	General Steel Castings Corp., Granite City, Ill.
Truck springs	American Locomotive Company, Railway Steel Spring Div., New York
Clasp brakes and slack adjusters — Drews Evertite side bearings	American Steel Foundries, Chicago
Journal boxes and lids	Symington-Gould Corporation, Rochester, N. Y.
Journal bearings	Magnus Metal Corporation, Chicago
Dust guards	MacLean-Fogg Lock Nut Company, Chic
Rubber draft gears	Waugh Equipment Company, New Y



Kansas City Is Again the Focal Point

Wheat Storage Situation Acute

Railways have plenty of cars and facilities but lack of elevator space interferes with movement

DESPITE perfect transportation service rendered by the railways, the movement of the 1941 wheat crop is being retarded seriously by lack of storage space, a matter entirely beyond the railways' control. As always, Kansas City has again become the focal point in the movement of the 1941 winter wheat crop. Unfortunately, this year, because of the huge carry-over of government-loan wheat from the 1940 crop, this terminal reached its saturation point, so far as public storage space is concerned, on July 9, and the Board of Trade of Kansas City issued the following circular on that date:

"Because of the unprecedented amount of wheat that has been shipped to the Kansas City market for storage, estimated at 80 to 85 per cent of the total receipts, the officers of the Kansas City Board of Trade regret to announce that the storage situation in this market is such that no more wheat for storage or loan can be taken in unless prior arrangements are made by each shipper to assure unloading upon arrival at Kansas City. All shippers are requested to take notice of this condition and, effective at once, to avoid shipping such wheat to this market until further notice. If, notwithstanding this announcement, such wheat is shipped to the market the consignee cannot be responsible for demurrage accruing or for loss due to heating while in box cars. This announcement does not apply to so-called free wheat, that is, wheat shipped to Kansas City for sale on the open market. The market is still in position to handle free wheat and other grains, which is necessary to support flour mill operations and to meet ordinary merchandising requirements."

On July 14, a meeting was held at Kansas City, with the grain trade, the Commodity Credit Corporation and the railways represented. It was agreed that the Board of Trade's notice had been somewhat effective in restricting the movement of storage wheat. However, the July 14 receipts were relatively heavy, and, as of that date, 1,100 cars intended for storage were on track under demurrage, with no storage space available. These 1,100 cars were absorbed during the week by space made available by outbound movement, but the grain elevator men can give no assurance of protecting other cars that may arrive later. Therefore, by agreement with the Board of Trade and all the railways, the Car Service division has issued the following notice:

"In view of the fact that all available elevator facilities at Kansas City for the reception of grain for public storage are completely filled and cars of wheat are now on track at that point for which there is no space in public elevators, effective at once and until further notice, all railroads will refuse to accept any wheat for consignment or reconsignment to Kansas City."

The notice then describes certain exemptions, such as wheat for sale and not for storage, and cars on which the shipper can prove to the railway that storage space for the wheat is available.

A similar tight situation as to storage space exists at Hutchinson, Kan., Salina and Wichita, and at St. Louis, Mo., and St. Joseph, although it is not quite so acute as

at Kansas City. It is expected that similar action will be necessary at these terminals.

A further situation developed also at Minneapolis and Duluth last week. Storage space at the elevators there became filled to overflowing after about 11,000,000 bushels had been shipped. At a meeting held on Saturday, July 12, authority was given to move 1,000 additional carloads of wheat into these terminals as the situation eased somewhat. The prospects for moving grain down the lakes from Duluth improved as more lake shipping became available, including two Canadian boats assigned to moving bonded Canadian grain out of the Duluth elevators. This situation will, of course, materially retard the movement of spring wheat in the Northwest territory, unless the government is able, by herculean efforts, to clear up some of the congestion it has created before the harvest in this area begins early in August. So far as the railways and the grain trade in the spring wheat territory are concerned, tentative plans have already been drawn up for complete co-operation in transportation and these plans will be discussed at the meeting of the Northwest Regional Advisory Board in Fargo, N. D., on July 29.

The C. C. C. Falls Down

The entire present difficulty may be traced to the failure of the Commodity Credit Corporation to unwind itself from governmental red tape in time to correct the storage situation. Despite the frantic pleas of the Kansas City office of the C. C. C., which realized the peril of the situation, wheat was permitted to remain in the midwestern elevators, with the result that, immediately prior to the movement of the 1941 crop, there was less than 30 per cent vacant storage space in the Kansas City terminal. Temporary relief was obtained by the movement of 3½ million bushels to the eastern seaboard, but even this was delayed by cumbersome government methods, although, when it actually got under way, the railways made some remarkable records in handling it, loaded cars leaving Chicago for Baltimore and Philadelphia being returned to Chicago empty within five days. A check of more than 500 cars at Baltimore showed that the average detention from the time of placement of loads on the elevator tracks was only 7 hr. 30 min., which is the fastest time on record for such an operation.

In contrast, the C. C. C. moves with ponderous slowness. Right now, the movement of the relatively small number of 125 cars from elevators at one sub-terminal in the wheat-loading territory to an eastern Iowa destination has been held up nearly three weeks because of delays and complications in getting warehouse receipts assembled. The C. C. C. has authorized the movement of 1,300,000 bushels from Kansas City, 300,000 bushels of which will go to Port Arthur, Texas, and the remainder to destinations in central territory. This, however, when it finally moves, will have little effect on the Kansas City situation as it represents only a small portion of the storage needs at that terminal. The C. C. C. has announced that 10,000,000 bushels of government wheat will be shipped out of Kansas City "shortly," which movement, when it takes place, should relieve the situation somewhat. The only definite movement on which advice has been received, however, is the 1,300,000 bushels referred to above.

A Fine Operation

Until the practical shut-down brought about by the lack of storage space, the railways were doing a fine job. The table below, reflecting the performance at Kansas City in the peak period, gives the operating picture clearly:

Date	Cars Received	Cars Unloaded	Total on Hand
6-30	1,669	648	3,564
7-1	466	761	3,143
7-2	848	857	3,074
7-3	1,031	894	3,201
7-5	1,809	1,032	3,930
7-7	1,889	924	4,867
7-8	755	1,126	4,436
7-9	910	1,076	4,255

During this period, reconsigned cars moving away from the terminal amounted to as many as 300 per day. A total of 5,000 cars on hand is considered normal for peak periods in this terminal, and as high as 6,500 cars on hand have been managed without clogging the terminal from a transportation standpoint. The above table indicates how far from a transportation saturation point the railways were during the entire rush period. They were set to handle from 1,000 to 2,000 cars per day more than the actual receipts, all through the crucial period.

All of the railways in the territory report plenty of cars on hand for any prospective loading. As a matter of fact, the car situation is in such good shape that, on July 9, the Car Service division canceled Special Car Order No. 43, which has been in effect since May 13, 1941, and which required the immediate return of empties to home roads in the wheat-loading territory.

Briefly, the present situation is that the railways, since May 10, have not only handled 40,000,000 bushels of the stored 1940 crop (all that the C. C. C. could find room for) but have also handled and can continue indefinitely to handle, all of the 1941 wheat for which storage space can be found. There have been absolutely no car shortages or even "tight" car situations anywhere in the territory, and there will not be any in the future. The problem has not been and is not now that of transportation, but entirely one of storage.

What About Next Year?

As of July 1, 1941, the Commodity Credit Corporation was in possession of 202,229,613 bushels of wheat on which the farm loans had definitely been defaulted. There is also an undisclosed amount of left-over grain from the 1939 crop in its possession. The corporation has announced that its policy will be to withhold this grain from the general market until the 1941 crop has been absorbed through sales or storage under loan. This means that, with the addition of many more million bushels from the 1941 crop to the huge amount already in the possession of the C. C. C., the carry-over will be stupendous.

The government is taking certain steps to meet this problem. The C. C. C. is planning the installation of business machines to accelerate the handling of the huge volume of paper work, which has slowed down shipments and complicated the movement this year. Farm storage of wheat will be still further encouraged. This has been practiced in unprecedented volume, so far as the 1941 crop is concerned and, to aid still further, the Office of Price Administration and Civilian Supply (OPACS) has issued a civilian allocation program providing for emergency preference ratings on 15,000 tons of sheet steel to be used in the construction of grain bins for farm storage. This program includes 10,000 tons of galvanized sheets, of which approximately 6,000 tons have already been delivered to manufacturers, and 5,000 tons of black sheets. This quantity, the OPACS admits, is not sufficient for the need, but it is all that can be spared for the purpose at this time, and it recommends the further construction of storage facilities of other materials.

An interesting sidelight on the current wheat movement has been the experimental loading of grain in open-

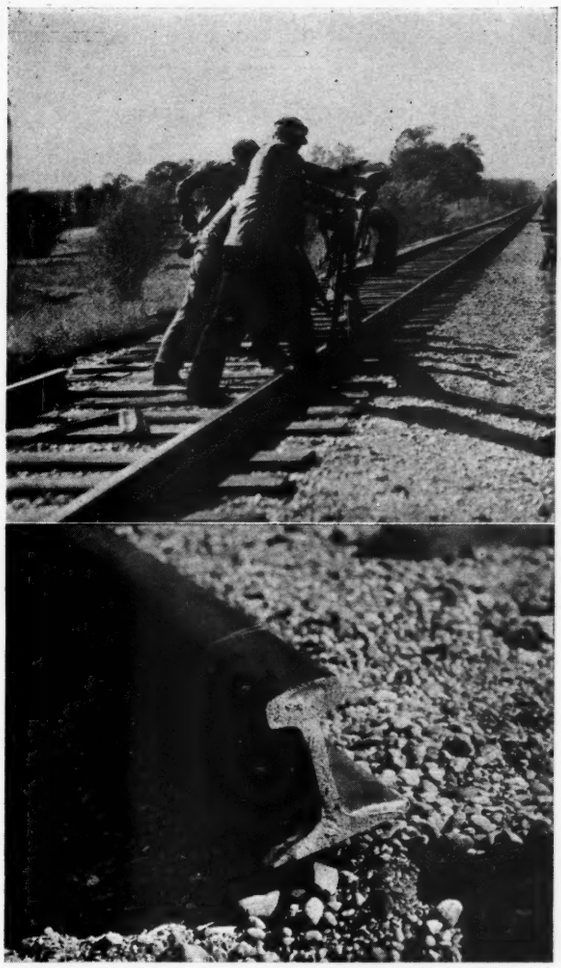
(*Continued on page 126*)

Decade of Study Reveals Secrets of Rail Defects*

Results of first ten years of the investigation sponsored jointly by the railroads and manufacturers are summarized in seventh progress report

By Dr. Herbert F. Moore

Research Professor of Engineering Materials, University of Illinois, in charge of investigation



Cutting a Rail at a Point of Indicated Defect—and the Transverse Fissure Found. The Work of the Investigation Has Gone a Long Way to Make this a Rare Sight on the Railways

WHILE previous progress reports on the Investigation of Fissures in Railroad Rails, a joint undertaking of the railroads and the rail manufacturers, have dealt mostly with individual phases of the investigation, the seventh progress report consists of a summary of all work on the causes and prevention of transverse fissures which has been carried on since the project was started in 1931. A subsequent progress report will discuss the status of the investigation of rail-end batter that is being made by the test party, although the present report gives some of the results of tests that have been conducted with specimens cut from end-hardened rails. These are included as a contribution to present-day knowledge of rail steel as a structural material.

For the purposes of the investigation, a quantity of test rails was furnished by five different steel mills, which was comprised of 5,000 tons of 130-lb. rail and 3,750 tons of 110-lb. rail. From each heat rolled, three rails were sent to the University of Illinois to furnish specimens for various laboratory tests. Also, some of the 130-lb. rails were placed in test sections on the Baltimore & Ohio, and part of the 110-lb. rail was inserted in a test location on the Atchison, Topeka & Santa Fe. All these rails were rolled under ordinary conditions and were cooled on hot beds.

By means of a testing machine developed especially for use in this investigation, specimens cut from the rails sent to the laboratory were subjected to extensive rolling-load tests. In these tests, failures starting as transverse fissures were developed in a considerable number (although by no means all) of those test rails which, by means of etch tests, were found to contain shatter cracks. No failures starting as transverse fissures have as yet been developed in the laboratory in newly-rolled rails which etch tests have shown to be free of shatter cracks. When they fail under repeated rolling loads, rails without shatter cracks fail by fatigue cracks starting from the surface of the rail. Moreover, they require higher wheel loads to cause fracture than do shatter-cracked rails. The results of the rolling-load tests give grounds for the following general conclusions:

1. Shatter cracks in the heads of rails are certainly a major and probably the major cause of fissures in the rail. Transverse fissures, vertical split heads and horizontal split heads—all have been developed under the rolling-load test.

2. During the progress of the rolling-load tests for developing fissures, the lowest wheel load which caused a shatter crack to spread into a fissure was 40,000 lb. This value has, therefore, been taken as a limiting load, below which fissures probably will not develop even though lower loads may be repeated several million times.

3. The minimum load which caused fissures in the rolling-load tests, the stresses set up in the rail head at the shatter-cracked zone by that load, and the results of tests of cracked fatigue specimens of rail steel—all these form a harmonious picture of the mechanism of the development of the transverse fissure.

Laboratory Tests Confirmed

During the investigation some 150 rails have been received that had developed transverse fissures in serv-

* This is an abstract of the Seventh Progress Report of the Investigation of Fissures in Railroad Rails, which was presented before the recent convention of the American Railway Engineering Association. Abstracts of the first four and the sixth progress reports of the investigation were presented in the *Railway Age* of August 31, 1935, page 269; July 4, 1936, page 25; June 12, 1937, page 980; July 23, 1938, page 160; and July 20, 1940, page 100. No abstract of the Fifth Progress Report was published.

ice. About 87 per cent of these were found to contain shatter cracks. These service records confirm in a general way the findings of the laboratory tests, namely, that shatter cracks are the major cause of the development of transverse fissures. However, they indicate, as might be expected, that, in the unusual case of a large oxide inclusion located in the zone in which shatter cracks occur, a fissure may develop in a rail if it is subjected to heavy wheel loads.

Both the mathematical theory of stresses in rail heads and the results of rolling-load tests agree in indicating that the start of a destructive fissure is due to the direct action of the wheel load rather than to the flexural stress. Also, the mathematical analysis of stresses due to the direct action of wheel loads, which is shown to agree very well with rolling-load test results, indicates that the stresses set up are practically independent of the size of the rail. Hence, it seems that the starting of fissures would not be hindered by the use of heavier rails, except insofar as they might make track conditions smoother and reduce the "dynamic augment" of wheel loads. They could not be expected to reduce the wheel loads due to flat spots on wheels. The etch tests made indicated that shatter cracks were more frequently found in heavy rails than in light rails.

However, there is evidence to indicate that the use of heavier rails, which would diminish flexual stresses, might tend to reduce the number of transverse fissures as compared with horizontal fissures. Also, the rolling-load tests give some indication that flexural stresses accelerate the spread of shatter cracks into fissures, once these fissures have been started by the action of wheel loads.

Field Tests of Wheel Loads

In view of the fact that the rolling-load tests demonstrated that the minimum wheel load which would cause a shatter crack to grow in size and become a transverse fissure was approximately 40,000 lb., it was felt that field tests should be made to determine answers to the following questions: (1) Do heavily-loaded freight cars have occasional wheel loads equal to or greater than 40,000 lb.? (2) if high wheel loads are found under traffic, how frequently do they occur? and (3) if high wheel loads are found, what is the reason for their occurrence? Accordingly, a field investigation was initiated which involved the making of strain-gage measurements in rails under a wide range of conditions, the tests being conducted on the Baltimore & Ohio, the Pennsylvania, the New York Central and the Atchison, Topeka & Santa Fe. For making the measurements, DeForest scratch strain recorders of an improved type were used. Based on a study of the results obtained in these tests, the following statements appear justified:

1. Under heavily-loaded freight cars (coal, ore, etc.), wheel loads equal to or greater than 40,000 lb. occurred on an average in these tests of once for each 1,000 wheel loads passing over a given point in the rail. At some points along the rail, the frequency of 40,000-lb. wheel loads was three times as great as the average.

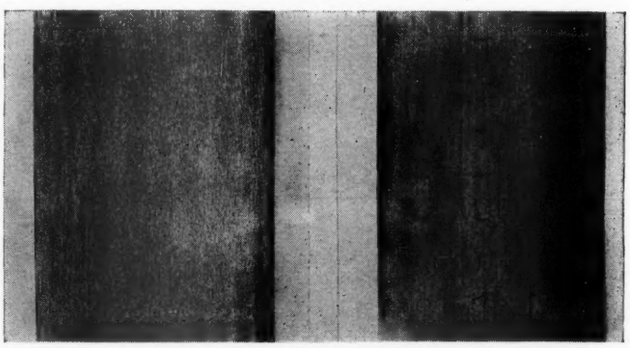
2. For less heavily-loaded cars the frequency of 40,000-lb. wheel loads was less than for the heavier loads.

3. High dynamic wheel loads may be caused by flat spots on wheels, out-of-round wheels, lack of concentricity of the axles and rims of wheels, and non-uniformity of the rail support.

4. From these field tests it seems that, in the speed ranges of trains below 25 miles per hour, flat spots on wheels are very prominent as a cause of high wheel loads. In the range of 40 to 50 m.p.h., hard spots in the rail support seem prominent, and above 60 m.p.h. out-of-round wheels, unbalance in counterweights and abnormally large play between rails and ties (that is, lack of uniformity of the rail support) loom up as important factors. These speed ranges probably will not be the same for locomotive drivers as for freight-car wheels, but adequate data on which to base a quantitive statement are not available at this time.

Service Records of Test Rails

Early in the investigation of transverse fissures in railroad rails, two railroads, the Baltimore & Ohio and the Atchison, Topeka & Santa Fe, agreed to install test

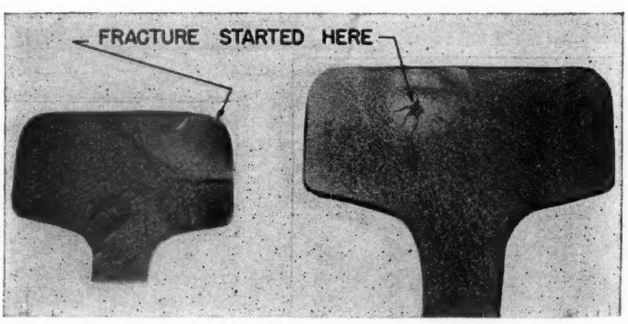


No Shatter Cracks Shatter Cracks

Etch tests on specimens cut from two normally produced, hot-bed-cooled rails

sections of rails to be observed for the purpose of investigating the formation of fissures under service conditions. The rails that were installed in these tests were rolled in 1931 and 1932 by five mills. They were hot-bed cooled, and were rolled under normal conditions, being placed in service without special care or maintenance. For the test on the B. & O., as explained previously, 130-lb. rails were used, while 110-lb. rails were installed in the test section on the Santa Fe. At the test locations, the traffic on the former is heavy as compared with that on the latter. Also the track at the test locations on the B. & O. has more grades and curves than that on the Santa Fe.

Beginning in 1934, the rails in the B. & O. section were tested annually by means of the Sperry detector car under conditions of commercial testing, while the rails in the Santa Fe section were tested by means of a Sperry type detector car owned and operated by the railway.



Fatigue fracture starting at surface; this is the type of fracture in rolling-load tests of rail specimens free from shatter cracks

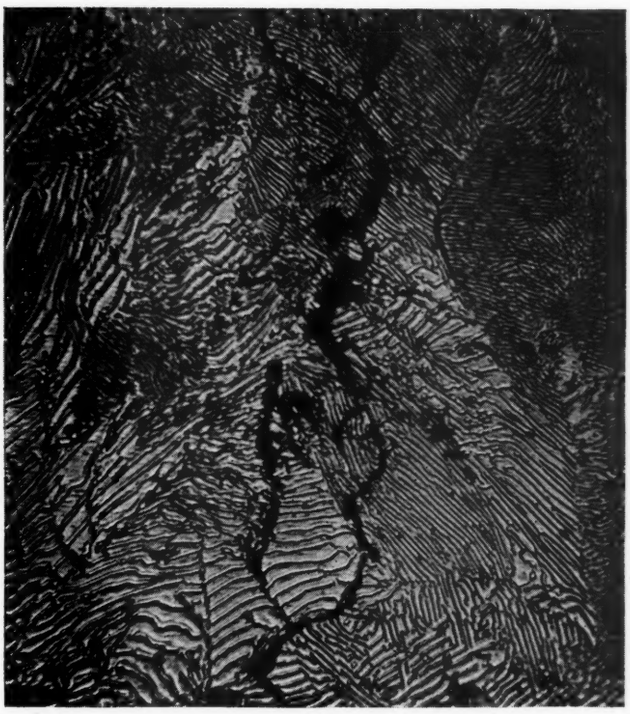
Internal fissure starting from nucleus in rail head; this is the type of fracture in some specimens with shatter cracks

Two Types of Fractures in the Rolling-Load Test

Information collected as a result of the examination of failed rails in these test sections was such as to warrant the conclusion that transverse fissures are generally associated with shatter-cracked rail. The truth of this statement is indicated by the fact that, in all cases where transverse fissures have been found in these test rails, the etch tests of such rails and other rails from the same

heats have shown that shatter cracks have been present. Of 67 failures that occurred in the test rails on the B. & O., only 9 took place in heats not shattered. These 9 failures embodied detail fractures under burns.

Also, it appears that, in a given group of rails in service under similar track conditions and traffic, fissures will first be found in rails from heats which contain the greater number of shatter cracks. This is shown by the fact that, in the B. & O. tests, the first failures were found in rails from the two heats containing the most shatter cracks, as shown by etch tests of specimens. Also, out of the 67 failures that have occurred in these test rails, 34 took place in these two heats, whereas the remainder are spread through 15 other heats not so badly shattered.



Shatter Crack in Pearlite

Magnification 1,500 X. Etched with 2 per cent Picral. Note that the shatter crack is very irregular and has branches extending in various directions, indicating a shattered condition of the steel

It was also concluded from these service tests that, in order to start a transverse fissure, a rather large number of heavy wheel loads is necessary. In this connection it is interesting to note that transverse fissure failures have occurred in the test rails on the B. & O. but not on the Santa Fe where there are fewer heavy wheel loads. However, the results of etch tests indicated that the test rails on the Santa Fe contained fewer shatter cracks than those on the B. & O.

Control Cooling

One phase of the investigation has dealt with the origin and prevention of shatter cracks in rails. As a part of this phase of the investigation, extensive experiments were made to determine the effectiveness of control-cooling as a means of preventing the formation of shatter cracks. In these experiments, specimens of rails were cooled by various procedures in wooden cooling boxes, and then examined to determine the extent to which the formation of shatter cracks had been prevented. It was found that the formation of shatter cracks was prevented in many of the box-cooled specimens, and that the prevention of shatter cracks is made more probable by (1) placing the rail in the cooling box at as high a temperature as is practicable, and (2) allowing the rail to remain in the cooling box for as long as is practicable.

The recommended standard practice now in general use for the control cooling of rails requires that they be removed from the cooling container only after all rails have cooled down to 300 deg. F. It frequently happens that 20 to 30 hr. is required before all the rails in the container reach this temperature, with the result that this requirement constitutes a source of expense in rail production.

To determine if it is necessary to allow rails to remain in the cooling box until their temperature has dropped to 300 deg., a study was made of 89 rail specimens each of which had been removed from the cooling box at a temperature higher than this figure. It was found that shatter cracks were not developed in any of these rails that had remained in the cooling box as long as 7 hr. It appears, therefore, that shatter cracks were prevented in all rail specimens which were placed in the cooling boxes at a temperature of 700 deg. F. or higher and which remained in the boxes for 7 hr. or longer without cooling below 300 deg. F. So long as a rail does not cool below a certain minimum temperature, it seems to be the length of time that it remains in the cooling container, rather than the minimum temperature, which is significant. Based on the investigation of control-cooling, two principal results were developed which may be summarized as follows:

(a) No evidence of shatter cracks was found for rails or rail specimens which were placed in the cooling container at a temperature of 700 deg. F. or higher, provided that the fastest cooling rail (usually a corner rail in the bottom row) did not cool down from 700 deg. to 300 deg. in less than 7 hr.

(b) Removing the lid from the container 12 hr. after it had been put in place did not develop shatter cracks in any rail for which the conditions outlined in (a) were fulfilled.

Brunorizing

A commercial process of normalizing rails was developed by the Illinois Steel Company (now the Carnegie-Illinois Steel Company) in 1936, which is known as Brunorizing. An important modification of this process was made in April, 1938, which entails the holding of the rails in gas-heated containers at a temperature of about 1,000 deg. F. for two or more hours before the normalizing treatment is undertaken. A few heats of rails produced by the Brunorizing process before the modification was introduced have developed typical transverse fissures in service from shatter-crack nuclei, but no Brunorized rails produced after the change was adopted have developed fissures. Laboratory tests and service records so far available indicate that the holding period is adequate to prevent shatter cracks in Brunorized rails.

A word of caution about control-cooled rails seems in order. Control cooling is not a panacea for all rail troubles. It will not prevent segregation and slag inclusion, decarburization of steel, or undue wear at the tread, with subsequent slivering and sometimes the starting of a progressive (fatigue) fracture. It will not prevent failures from starting in the base or the web of the rail, nor will it prevent failures starting from wheel burns. It seems so far to be a very effective inhibitor of shatter cracks, and may be expected to reduce transverse and compound fissure failures very greatly as the ratio of control-cooled rail in service to the total rail increases.

With the data now in hand it is planned during the

present year to draw up, submit and discuss detailed specifications for the time periods and temperatures involved in control-cooling railroad rails, and for certain other details of the process.

Chemical and Metallographic Tests

One phase of the rails investigation has dealt with the chemical composition and metallographic structure of rail steel. When testing 130-lb. rails during the early part of the investigation, shatter cracks were found to be more prevalent in rails having a high silicon content. However, in later tests of 110-lb. rails, especially those from one rail mill which were quite high in silicon, the apparent relationship between high silicon content and shatter cracks broke down. Also, it was generally recognized that there were more shatter cracks in rails with a higher carbon content. Because of these considerations the chemical analysis of carbon-steel rails was revised by the A. R. E. A. in 1933 to lower the carbon content slightly, and definite limits were also established for the silicon content.

Careful consideration has been given during the course of the investigation to the segregated streaks that are found in the heads of some rails. Phosphorous, sulphur and carbon are the chemical elements that are most likely to become segregated. As a result of chemical and physical tests made on specimens cut from rails showing segregated streaks, it was found that the metal in such streaks was stronger but lower in ductility than the unsegregated metal. The results of these tests give some explanation as to why shatter cracks are often located along, or radiating from, segregation streaks. It seems that the brittle material of the streaks would be more subject to cracking than the more ductile metal surrounding them, and so it is not unusual to find some rails containing shatter cracks only along such streaks.

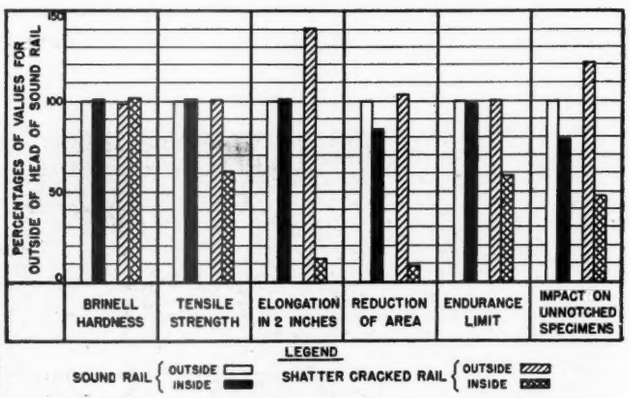
During the investigation, metallographic testing has been employed to study rails for grain size, impurities, location of cracks, decarburization, etc. In this connection, about 1,000 photomicrographs have been taken. As a result of this work, it may be stated that, in general, no typical structure has been associated with shatter cracks, except that they are more numerous in segregation streaks, which usually contain more non-metallic inclusions than the surrounding metal.

Mechanical Properties of Rail Steel

As an important part of the investigation, numerous mechanical tests were conducted on specimens cut from rails. Early in the investigation, such tests were carried out primarily for the purpose of furnishing information regarding the properties of rail steel. The tests which comprised the earlier part of the program were mostly concerned with the establishment of the mechanical properties of rail steel, as found in shatter-cracked and in non-shatter-cracked rails. When the program of the investigation was expanded to include a study of the hardening of rail ends to minimize batter, a great many mechanical tests were made on specimens cut from rails so treated. These tests were made on rails end-hardened by 11 processes, of which 6 represented methods used at mills and 5 represented processes employed to end-harden rails in track.

Shatter cracks, if present, are found from 3/8 in. to 3/4 in. below the tread of the rail. Hence, mechanical tests of strength and ductibility were conducted on specimens cut from different parts of the same rails, both with and without shatter cracks, to determine the effect of shatter cracks on the physical properties of the metal. As a result of these tests it became evident that there is a distinct difference in tensile strength, reduction of area and elongation between the steel in the center of rail heads in which shatter cracks were found and the steel near the surface of such rails—a much larger difference than was found in rails free from cracks.

In the static tension tests that were conducted on specimens cut from end-hardened and unhardened rails, all of the mill end-hardened rails showed increased strength, elongation, and reduction of area for the treated material as compared to the unhardened steel. In view of the increased hardness of the end-hardened steel, the increased ductility, as shown by the data on elongation and reduction of area, is somewhat surprising. However, this improvement of ductility can be accounted for by the improved microstructure of the hardened steel that was brought about by the heat treatment imposed in the end-hardening process.



Results of Mechanical Tests of Specimens of Rail Steel

Because of the relatively shallow depth and short length of the end-hardened material produced in the rail samples by the five processes that are employed to end-harden rails in track, it was not possible to obtain tension specimens for these rails.

Impact Tests

The mechanical testing program also embraced impact tests on specimens cut from shatter-cracked and sound rails. The results of these tests demonstrated that, while the metal from the inside of the rail heads showed lower impact values than that from the surface for both sound and shatter-cracked rails, this difference in the shatter-cracked rails was much more pronounced.

Similar tests were conducted on specimens cut from end-hardened rails, treated by both the mill and track processes. The effect of all the end-hardening processes was to improve the energy strength or toughness of the end-hardened material as compared with the unhardened rail steel. The increase of toughness with increased hardness in the end-hardened steel was, as in the case of the increased ductility for the end-hardened material in the tension tests, an unexpected result, but it can be explained in the same manner.

Many fatigue tests were carried out on specimens cut from shatter-cracked and sound rails. Examination of the results indicates that the fatigue strength of the metal from the inside of the heads of shatter-cracked rails was less than 60 per cent of that of the outside metal of the same rails. As the fatigue strength of the metal in the shatter-cracked area of the inside of a rail head was the only material that was found to be appreciably weaker than the outside metal of sound rails, the

shatter cracks can be assumed to be the cause of the reduced fatigue strength of the steel in that location. Other fatigue tests demonstrated that in all cases steel taken from end-hardened rails gave higher values of fatigue strength than did the unhardened rail steel.

Laboratory tests were conducted to determine the effect which the heat-treating process used in end-hardening rails has on such mechanical properties of steel as the tensile strength, ductility, toughness and fatigue strength. The results of these tests indicated that the upper limit of Rockwell "C" hardness to be obtained in end-hardening practice should not exceed a value of 45 (Brinell 415). Also, as heat-treated rail steel develops good toughness for hardness values below "C" 45, it is evident that the lower limit of end-hardening practice should not be established by toughness considerations. The rolling-load and service tests indicate that hardened rail ends with values below "C" 35 (Brinell 320) are not effective in preventing wear and batter. In other words, the tests indicated that the satisfactory hardness range for end-hardened rails is between "C" 35 and "C" 45 (approximately Brinell 320 to 415).

Effects of Temperature Changes

A considerable study was made of the effect of temperature on the properties of rail steel, as it is a matter of common railroad experience, especially in the northern United States and Canada, that rail failures are more frequent in cold weather than in warm weather. In one phase of this part of the study, fatigue, tensile, Brinell and impact tests were conducted on numerous specimens from three rails in a cold room with minimum temperatures of—40 deg. F. for all tests and of—53 deg. F. for impact and tensile tests. In summary, the results indicate that the general tendency is for strength properties to increase as the temperature decreases to—40 deg. F., but the brittleness of the steel also increases.

Another phase of the tests was undertaken for the purpose of determining what variations take place in the toughness-hardness ratio of rail steel with changes in temperature. In this study the toughness-hardness relationship was determined for five testing temperatures, namely +70, +20, zero, —30 and —70 deg. F. The results indicated that the toughness-hardness relationship is not greatly changed over the range of temperatures in which the tests were made. It was also demonstrated that, at all testing temperatures, heat-treated steel has much greater toughness than as-rolled rail steel. It should also be noted that, as the temperature at the time of testing is progressively lowered, the as-rolled steel loses its toughness much faster than does the heat-treated steel. From other tests it was also determined that end-hardened steel has better toughness properties to resist rolling or cold working than does the as-rolled material.

Non-Destructive Tests

It is known that rails have been manufactured in the past from steel which developed shatter cracks or was subject to conditions which would produce them. It is evident, therefore, that a non-destructive method of detecting these potential failures in new rails would be very desirable, although the use of control-cooled rails may be expected to lessen its importance. Detector cars have been developed for the purpose of detecting fissures and other defects in rails after they have reached a considerable size, but no method of testing has been devised to detect the presence of shatter cracks or small defects in new rails or in rails in service. Various non-destructive methods of detecting shatter cracks in rails have been studied during the investigation but none of them has proved reliable, and for the present at least this phase of the investigation has been discontinued.

The investigation has included a study of the relative merits of the drop test and the bend test when used as acceptance tests for rails. This study has entailed the conduct of experiments to determine the merits of the bend test as a means for detecting shatter cracks in rails. As a result of these tests, it was concluded that the bend test is a relatively reliable destructive test for separating shatter-cracked rails from sound rails, and that it would have many advantages over the drop test as an acceptance test for rails. Plans have been made and apparatus built for conducting a rather extensive series of bend tests on rails at the Steelton (Pa.) plant of the Bethlehem Steel Company. It is proposed that this work be undertaken in 1941, and it is hoped that it will furnish the basis for drawing up specifications for the bend test as an alternate to, or substitute for, the present drop test.

The Long-Pending Class Rate Probe Gets Going

ON July 10 and 11 at a hearing in St. Louis the Interstate Commerce Commission got under way with its long-threatened inquiry into class rates and classifications. On this occasion close to 200 members of the I. C. C. bar (representing railroads and their competitors, shippers, and various governors and local governments who are making a political issue out of the freight rate situation) were given a chance to take a crack at the several basic studies recently prepared by commission statistical and rate experts as a basis for the investigation—Dockets 28300, 28310 and MC-C150. In charge of the case is the Commission's Division 2—Commissioners Aitchison, Splawn and Alldredge—and all of them were on the bench, flanked by a couple of examiners and state commissioners. Commissioner Aitchison presided.

In this case is involved—to some degree at least—the effort by some of the railroads (and, possibly, some of the regulatory authorities as well) to modernize the rate structures to meet the exigencies of present-day competition in transportation. And opposed thereto are rival agencies of transportation which would like to keep the shackles on the railroads so that the railroads may continue to be easy prey to the "pick and choose" technique. Even more spectacularly at issue in the case is the political effort, especially active in the South, to get a change in the freight rate structure which will shift the economic balance of the country around more to the liking of these sectional promoters. This activity has aroused an equal and opposite reaction on the part of those political areas which are, generally speaking, content with the *status quo*—and do not wish to see the freight rate structure altered to their disadvantage.

The Commission at the St. Louis hearing entered the studies prepared by its staff as formal exhibits, and put the authors on the stand to submit to examination by counsel. The advance distribution of these studies was made so that the lawyers would have a chance to pore over the voluminous and highly-technical material before the hearing; and not be given cause to ask for a few weeks' recess for that purpose. These exhibits put in by the I. C. C. experts may be described, briefly, as follows:

"Railroad Freight Service Costs in the Various Rate Territories" is an elaborate tabulation "prepared under

the direction of Ford K. Edwards, principal economist in charge of Cost Section," I. C. C. Bureau of Statistics. Average computed costs are shown separately for each of eleven geographical areas and for the United States as a whole. Costs are given by 10-mile jumps for distances from 10 to 100 miles, by 20-mile jumps from 100 to 500 miles, and by 100-mile jumps thereafter up to 900 miles. Costs are separately shown for each class of cars—box, flat, gondolas and hoppers, tank, stock and refrigerators; with l. c. l. in a category by itself. And the showing is further broken down according to weight of lading—by one-ton jumps from 5 tons to 64 tons for carload traffic and by half-ton jumps from 1 to 15 tons for l. c. l.

So if you know what territory a piece of freight moved in, how much it weighed, the distance it traveled and the kind of car it was hauled in—all you have to do is to leaf through Dr. Edward's tables and they will tell you exactly (in his opinion and on the average) what that particular piece of transportation cost the railroads. If you want the cost at various levels (such as out-of-pocket, or with a return on the investment included), Dr. Edwards' tables supply you with factors by which you can multiply his figures to translate them into different bases.

The areas into which the country has been divided for purposes of this study do not coincide with existing rate territories. They are as follows: 1—New England; 2—Eastern (N. Y., N. J., Del., and Md. and thence westward to include all of Ill. except the northwest portion); 3—Eastern (the same as group 2, but including all of Ill. and southeast Wis.); 4—Total Eastern (including New Eng., northwest Ill. and southwest Wis.); 5—Pocahontas; 6—Southern (including Ky.); 7—Southwestern (La. west of Miss. river, Ark., Okla., Tex. and south Missouri); 8—Western Trunk Line (excluding northwest Ill., southeast Wis., and south Mo.); 9—Western Trunk Line (including northwest Ill. and southwest Wis., but excluding south Mo.); 10—Mountain Pacific; 11—Total Western (everything west of Lake Michigan and the Miss. river); 12—Total U. S.

Just to get at a general idea of the territorial variation in Dr. Edwards' average costs—here is how they go in cents per 100 lb. (territory numbers shown in parentheses) for a 20-ton load in a box car for a 200-mile haul; (1) 12.2; (2) 10.9; (3) 10.9; (4) 10.9; (5) 8.7; (6) 9.6; (7) 10.4; (8) 10.4; (9) 10.5; (10) 10.4; (11) 10.4; (12) 10.4. For a 200-mile haul on 10 tons of l. c. l. traffic in a box car excluding c. and d. expense) the territorial comparisons, in cents per 100 lb., are as follows: (1) 48.0; (2) 45.9; (3) 47.1; (4) 46.9; (5) 42.3; (6) 40.6; (7) 50.5; (8) 54.2; (9) 55.1; (10) 53.5; (11) 53.8; (12) 47.2.

"Railroad Freight Service Costs in the Various Rate Territories"—the identical title given to the above-mentioned tabulation by Dr. Edwards—is likewise the inscription on another mimeographed volume authored by him, which sets forth in detail how he broke down and distributed the various railroad accounts, later to be divided by ton-miles and car-miles in order to build up his tabulation of unit costs.

"Distribution of the Natural Resources of the United States by Freight Rate Territories" is a study "prepared under the direction of W. H. S. Stevens, assistant director, Bureau of Statistics." Dr. Stevens relied very largely on data from the National Resources Planning Board for his information. His areas are five—Official, Southern, Western Trunk Line, Southwestern, and Mountain-Pacific. His Official territory includes all of Illinois and southeast Wisconsin and everything east thereof. His Southern territory coincides with that covered by the Southern classification. His Western Trunk Line area runs from Lake Michigan and the Mississippi river westward and southward to include Eastern Colorado, the Dakotas, Nebraska, Kansas and all of Missouri. His Southwest is Texas, Oklahoma, Arkansas and all of Louisiana west of the Mississippi river.

The resources examined are: mineral, energy, agricultural, forest and human. In this study are set forth interesting facts (of which the following are a minute sample):

That 53 per cent of the available iron ore in the country is located in Southern territory. Western Trunk Line has 36 per cent.

That 98 per cent of the copper is in the Mountain-Pacific area, while the Southwest has 37 per cent of the zinc, compared to Official territory's 24 per cent.

That Official territory leads the country in cement production.

That the electrical manufacturing industry consumes 23 per cent of the country's copper output and telephone, telegraph and power lines another 13 per cent.

That transportation uses up 29 per cent of the aluminum and cooking utensils only 15 per cent.

That Official territory has 57 per cent of the country's electrical energy.

That Official territory has 43 per cent of the bituminous coal reserves and the Southwest 68 per cent of the petroleum.

That Official and Southern territories run neck and neck in farm income, each with about 26 per cent of the total, that Mountain-Pacific comes third, and the "granger" areas of the Western Trunk Line and Southwestern areas come last.

That of the land in Mountain-Pacific territory less than 1 per cent is classified as "excellent" or "good." In Southern territory 10 per cent of the land is so described; in the Southwest 18 per cent; in Official territory 29 per cent; and in the Western Trunk Line area 42 per cent.

"Progression in Freight Rate Mileage Scales—Revised Issue" is a presentation prepared by E. S. Hobbs of the Bureau of Statistics. It sets forth the various mileage scales used in the regulation of freight rates.

"Some Suggestions for Improvements in Railroad Class Rates" is a monograph by C. G. Jensen of the Bureau of Traffic. In general, what he proposes—instead of reducing the classification of commodities on which rate reductions are imperative because of competition (as has been done, notably, in the South, but also in the West)—is that first class rates in the South and West be reduced "more nearly to the level of those in the East," and that the declassified commodities be restored to higher classes, to be more nearly uniform with the level in the East.

The bulk of the cross-examination was directed at Dr. Edwards' presentation—J. B. Plunkett, general attorney of the Great Northern, subjecting the witness to a detailed examination of the method by which he had arrived at his figures, and the junctures at which the application of his personal judgment was necessary in the distribution of overhead and common items. It was brought out that the territorial differences shown therein in costs represent differences in traffic conditions quite as much as differences in railroads. Dr. Edwards made it plain that the formula used in this study represented average costs, including branch lines; and that it could not be used to reflect costs of main line service or those of particular trains.

Some of the counsel who participated in the examination asked for a look at Dr. Edwards' work sheets, and Commissioner Aitchison took this request under advisement; but he suggested to J. R. Turney, representing motor carriers, that he proceed with his examination on the assumption that the request would not be granted. Mr. Turney appeared to have his doubts about the propriety of assigning train service wages on a gross-ton-mile basis. He would, it seems, prefer to see them distributed by car-miles.

Atlantic Shippers Hold Emergency Parley

A RICH harvest of pointers on how shippers and railroads can conserve the car supply was the product of a spirited forum discussion featuring a special meeting of the Atlantic States Shippers Advisory Board at Atlantic City, N. J., on July 11. So great was the interest shown in the subjects placed on the table that rather than adjourn after luncheon—which is the custom—the members continued to wrestle with pressing problems until late in the afternoon, pushing away the allurements of the seashore resort. Some 600 shippers and railroad men attended.

Focal point of the meeting was an open forum discussion on the five principles of car utilization recently enunciated by the National Defense Advisory Commission.

1. Give advance notice of requirements but do not order cars placed for loading until commodities are ready to load.
2. Unload cars promptly on arrival and notify railroad when empty car is available.

Leading the discussion on these points, Assistant Traffic Director W. R. Settgass of the American Tobacco Company declared that shippers should make a weekly forecast of car requirements as to number and type and inform the railroads well in advance. Important also in saving time, he said, is not to order cars spotted at the plant too far in advance of loading; shippers ought to make an effort to gage loading time effectively. Adding to this point, General Traffic Manager H. H. Pratt of the Crucible Steel Company of America declared that it takes time for the carriers to feed empty cars to "subyards" to care for plants in their vicinity; Crucible tries to keep the railroads apprised of requirements seven to ten days in advance. Also to save time, this company has spent money to put on an extra handling force at night and use its heavy cranes—hitherto idle at that time—to load cars. Now they are ready for billing the next morning.

3. Load cars to maximum journal carrying capacity or full visible capacity, whichever governs.

As forum leader on this principle, Mr. Pratt raised many points which drew responses from a large number of board members. He emphasized the fact that shippers should look for new techniques of loading and handling and that, in this connection, the railroads will supply them with all the technical aid of special engineers they require.

He then requested Mr. Settgass to describe what American Tobacco is doing to help the situation. The latter pointed out that his department had not only increased loading per car of outbound manufactured products but circularized its suppliers to increase inbound loadings, after survey of invoices showed that loadings could be increased 30 per cent or more. To each supplier on its list, the company sent the following letter, dated July 1:

"The conservation of box cars is of paramount importance if we are to avert a serious car shortage. The railroads will be able to carry the transportation load made necessary by the defense program, only through the complete cooperation of all the shippers in making a freight car do its maximum job.

"For selfish reasons, if for no other, the shippers should conserve equipment. The American Tobacco Company is doing its part by the heavier loading of its products, and by adjusting its purchases to such units as will make the maximum use of a box car.

"We know that you are in thorough sympathy with this program. Since there is always room for improvement, if, in your checkup of our orders, you find that the product which you ship us can be heavier loaded, we would welcome your suggestions.

"There is an additional way in which you can help the general situation. In making regular shipments to our factories, load cars that we can reuse for our outbound manufactured goods.

"As you will observe from the form attached, which we use for ordering box cars, we require clean and watertight cars, preferably of standard size 40'6" by 9'2", or 40'6" by 8'9", with side walls lined to the roof.

"With kindest regards, I am

Very truly yours,

T. T. HARKRADER,
Traffic Director."

American Tobacco formerly loaded in single-tier hogsheads from production points to its warehouses. It has now increased lading per car 100 per cent by double-tiering hogsheads weighing up to 1,000 lb. In answer to a question from the floor, Mr. Settgass admitted that it costs more to double-tier because of the necessity of adding to handling force and using machines to load the second tier, but added that "it is money well spent" to save cars. His company has also increased loading of manufactured products 25 per cent by loading cartons in four layers instead of three.

Following Mr. Settgass' presentation, the question was raised of what to do about the buyer who will not accept a car loaded to full capacity. Mr. Pratt replied that in some cases the fault is ignorance. His company had a customer who consistently specified a 40,000-lb. car, claiming he couldn't unload anything heavier. Crucible sent him one of its own men to "teach him how" to unload an 80,000-lb. car; the customer has been accepting such loads ever since.

The traffic manager of a cement company said his firm asks customers to take increased loadings whenever an order comes in, but is running into difficulties. Customers persist in taking two or three minimum cars a week. "And if we don't give them what they want, our competitors will." The traffic manager of another cement concern said he has stepped up minimum carloads from 132 bbl. to 150 bbl. and will further increase it to 170 bbl. "if and when my competitors do." Asked if the railroads are studying the question, A. P. Stevens, district manager, Car Service division, A. A. R., replied that his organization is calling on shippers and receivers whenever apprised of failure to attain a reasonable load. One great difficulty, in the case of cement buyers, for example, is that they do not have sufficient bin capacity to accept heavy loadings.

It was the opinion of F. E. Guy, general traffic manager, Universal-Atlas Cement Company, that the best field for educating customers is through the sales department. After "selling" his program to his vice-president of sales, he has succeeded in getting every salesman to attempt to get dealers to take more than a minimum carload. Mention of the car supply situation has been made by the vice-president in virtually every sales-letter since the defense program began. This traffic manager is sending the new A. A. R. poster on car conservation (reproduced in last week's *Railway Age*) to every salesman of the company.

The question of "double-loading cars"—i. e., placing two separate shipments to different consignees on the same car—was raised by W. C. Kendall, chairman, Car Service division, A. A. R. It seemed to be the consensus that such a scheme must be used with great caution and only as a last resort. In some instances double-loading actually delays cars, in excessive time in transit between consignees. Also, most shippers would balk at being the second consignee. The scheme would probably have to be used if a real car shortage arises, though.

Traffic Manager E. S. Gubernator of the Lehigh-Portland Cement Company expressed criticism of the diversity of routes. Reminded that in most cases the use of unduly circuitous routings is the fault of shippers themselves, he insisted that it is up to the railroads to remedy

the situation by "combing through their tariffs," discussing with operating officers what constitutes proper operating routes and cutting out excessive allowed routings. Railroad representatives held that as long as shipper-specification is protected by law, such routings must remain. Mr. Pratt then asked if the railroads contemplated cutting down optional routes on through merchandise cars in order to further consolidate loads and received the same response.

4. Remove all dunnage, blocking and rubbish from cars after unloading to permit immediate reuse and eliminate necessity of delay to cars for reconditioning.

Reporting on this topic, R. C. Huntington, secretary, Casey Jones, Inc., and general secretary of the Board, made a vigorous attack on what he termed "the totally uncalled for, unnecessary and unwarranted abuse of empty railroad cars by a small minority of receivers." Cars are out of service an average of 52 hr. from time pulled to re-loading when cleaning is necessary and only 14 hr. when it is not needed. He presented amazing examples of use of empty cars by receivers "to clean out their warehouses" and described in detail a recent inspection of a cleaning track on which he saw all the filth of industry. From the floor one member suggested that shippers "be charged transportation" if they load refuse into empty cars. The point was made that the problem was difficult because the kind of shippers who are guilty of such practices are not members of the advisory boards. In fact, responsible shippers are often the victims of such dirty cars. It was also suggested that the railroads should protect themselves by refusing to pull an empty car which is so mis-used.

5. In industries where five-day work week is in effect some plan should be worked out to provide at least six-day basis for loading and unloading cars.

Discussion on this point brought to the attention of the Board a number of local situations in which receivers of freight not only refuse to accept shipments on Saturdays and Sundays but also severely restrict hours of acceptance on other days of the week. One member remarked that the Germans don't recognize the five-day week and that this country had better take note.

Luncheon speaker was Colonel J. Monroe Johnson, member of the Interstate Commerce Commission. Having served during the last World War with the famed and eclectic "Rainbow Division," the Commissioner "left his statistics in Washington with the Bureau of Service" and talked informally of his experiences in 1917 and his views on the present crisis. C. J. Fagg, manager, Commerce & Trade bureau, Newark (N. J.) Chamber of Commerce, rendered the report of the Emergency Port Committee, of which he is chairman. [Formed in the latter part of 1939, this committee has a member in each North Atlantic port and has performed excellent service in heading off many situations which would have proved disastrous.—Ed.] The Committee has studied Panama Canal traffic and estimated that its whole tonnage would increase the railroads' carloadings only 1.5 per cent on a basis of 900,000 carloadings weekly. This normal canal traffic is now already greatly reduced by loss of foreign trade and withdrawal of ships from intercoastal trade. Mr. Fagg suggested that the railroads be asked to inform the committee of all cars held at ports under load over 15 days together with identification of shipper so that appropriate action may be taken.

Reviewing national transportation conditions, W. C. Kendall of the A. A. R. predicted that carloadings will not follow the normal seasonal trend this year and that there will be no precipitous drop following the October peak. He also dismissed fears of a shortage in coal cars, citing instances showing where present slack may be taken up to increase the supply. The grain situation is well under control, but the carriers are naturally concerned about it because "there is great sensitivity in Washington, D. C., about agriculture." In a supplementary remark C. J. Goodyear, traffic manager, Philadelphia & Reading Coal & Iron Co., and general chairman of the Advisory Board, stated that industry is taking Ralph Budd's advice about ordering coal this summer seriously. His company now has orders in hand far in excess of its ability to deliver.

Reporting on "Unduly Circuitous Routing of Shipments," General Secretary R. C. Huntington said he would like to have reported to the Board instances of shippers specifying circuitous routes for purposes of getting free storage. In a general discussion on the topic, it was suggested that any attempt to bar circuitous routes might throw too great a burden on direct routes; also that roads participating in indirect routes often give faster service and at lower cost.

Officers of the Board will appoint a large committee —to be known as the Committee on Freight Car Efficiency—comprising shipper representatives at key points throughout the Board's territory who will establish local sub-committees and contact both large and small shippers in their respective areas. Committee members will be kept posted from New York headquarters of vital matters to pass along to other shippers. This committee will follow along the lines of one recently set up by the Ohio States Advisory Board, having members at 45 key points.

Commodity committees of the Board have forecasted an increase of 10.3 per cent in carloadings for the third quarter. The forecast shows no decrease in any commodity and "no change" in but four classes of agricultural products.

The Army Is Passengers*

FORMED into what we know as the Interterritorial Military Committee with H. W. Siddall as chairman, the railroads have a group of [passenger] representatives dealing with the military branches which has impressed itself favorably upon all its contacts. The large share of credit for the relationship generally between the military and the railroads is due to this group, and the work it has been doing in the past 20 years is now bearing fruit.

The Quartermaster General is charged among other things with the transportation of troops, their equipment and supplies. He has, therefore, been designated by Army regulations as traffic manager for the War department. One of the divisions of the office of the Quartermaster General is designated the Transportation division. This division has two operating branches—Water Transport branch and Commercial Traffic. The former directs and operates the Army Transport Service and the latter functions as the office of the War Department Traffic Manager. This latter office is charged with the commercial transportation of the Army and it not only directs and controls both freight and passenger traffic, but it is also responsible for the operation of all utility railroads at War Department installations and the purchase, repair, and maintenance of rolling stock thereat. It also

* A portion of an address delivered by Captain E. C. R. Lasher, chief of Commercial Traffic branch, Transportation division, Quartermaster Corps, before the American Association of Passenger Traffic Officers in New York recently.

is charged with the consummation of all terminal and switching agreements, operating agreements, etc. It maintains and operates a fleet of over 900 tank cars for the movement of petroleum products—particularly Air Corps gasoline. It operates two locomotive and car repair shops and performs all the administrative, fiscal, and statistical duties incident to the proper discharge of all of these duties.

Close Work with Railroad Officers

To assist the Quartermaster General in these duties, there is attached to the Commercial Traffic branch the Military Transportation Section, Car Service division, Association of American Railroads. This office has been extremely helpful in all car service matters and has assisted mightily, under the managership of Arthur H. Gass, in keeping our traffic fluid. With this section are representatives of each of the various territorial passenger association chairmen for the purpose of expediting and handling passenger business. Constant direct teletype connection with all chairmen and with the Pullman Company is had through these individuals. Also to assist in his many traffic problems, the Quartermaster General has drawn freely on the Transportation section of the office of the National Defense Advisory Commission, headed by Ralph Budd. His staff, headed by Karl Fischer, are always at the command of the Quartermaster General, and their work with us has been most helpful.

As an example of how smoothly the entire organization works and what co-ordination, co-operation and mutual confidence can accomplish, let me draw your attention to a meeting held in Washington, D. C., on September 20, 1940. It was attended by the various chairmen and representatives of the Quartermaster General's office. During the morning certain members of the War department general staff outlined briefly the selective service system which was to soon go into effect, and answered any and all questions on the subject. During the afternoon of that same day in about four hours, a simple, practical, efficient, and mutually acceptable arrangement was drawn up for the handling of selective service trainees from induction stations through their various staging points to their final training camps. This arrangement is still in effect, is operating most satisfactorily, and has never been changed in any particular since that day. It is an excellent example of superior planning and organization backed up by efficient operation, and everyone who has had any part in it can feel proud.

Army Traffic Is Heavy

During January, the office of the Quartermaster General routed 168,342 men. This required a total of 417 special trains, comprised of 2,711 sleeping cars, 1,491 coaches and 1,282 baggage cars. In February the figures were 177,673 men, 447 trains, 2,535 sleepers, 1,804 coaches and 1,221 baggage cars, and in March, 308,070 men, 824 trains, 4,626 sleepers, 2,891 coaches and 2,117 baggage cars. This aggregates for the quarter, 654,085 men 1,688 special trains, 9,872 sleeping cars, 6,186 coaches and 4,620 baggage cars. This is in addition to all individual and small party movements of less than 50 men each—a large number in itself.

However, this is only a beginning and if the situation has been strained in particular instances in the past, you may look for many more such instances in the future. Your efforts individually and collectively must be redoubled. Nothing can be left undone which might contribute to the success of this job. The War department, the government, indeed the entire country, has its eyes on this mass movement and there can be no mistakes. The War department does have a large stake in this, but the railroads themselves cannot afford to allow the job to get ahead of them, for if it does, the result is almost certain. Therefore, it behooves us to stay out in front where we are now.

The War department is at the present time stressing morale of troops and as an indication of this, we will see many large weekend round-trip movements. We will see a great deal of furlough travel—at least a great many furloughs granted. Also, we will soon see the entire movement of the Army double as trainees complete their year's service and return to their homes. We will experience one of the largest, if not the largest continuing mass passenger movement the railroads have ever experienced.

Under the present selective service system, an individual soldier makes at least five moves in a year, namely from local board to induction station, induction station to reception center, reception center to replacement center, replacement center to training center, and later training center to home. This is a total of 7,000,000 man-moves per year, exclusive of the Navy, Marine Corps and C. C. C., and is in addition to any casual official, week-end pass travel or furlough travel which might take place, and is figured on the present authorized strength of the Army.

Troop Movement Exceeds World War

The movement of troops during the World War was by and large most successful, and the system being used now is substantially the same as was used then. However, the problem is a bigger one now than it was then; generally men moved direct to training camps thence to ports for shipment overseas. There were not several staging areas between home and final training camp; there wasn't time for week-end passes, furloughs or readjustments as is the case now. In short, the job this time is a much greater one, and much more complex. For instance, from the period May 1, 1917, to November 10, 1918, 11,959 special troops trains were routed from the Washington office. From the figures I have just quoted above, the present average would for a similar period total 10,320 special trains—nearly as many, as you can see. The present selective service system does, of course, create more business, but at the same time, it creates more problems and any increase now in the present defense program will immediately increase the passenger load on the transportation industry to a point well above that of the World War.

There have come to the attention of our office in the past year several complaints, complaints of poor service, complaints of unsatisfactory equipment, non-adherence to schedules, and others. Such are, I realize, bound to occur no matter what precautions are taken, but what bothers me are the reports regarding equipment. I have managed to keep abreast fairly well of new equipment programs and of rehabilitation and repair programs, but is enough being done? Only you gentlemen know definitely how hard it has been to obtain extra equipment when you needed it—and when everyone else needed it. Only you gentlemen know definitely of your own frantic efforts in getting equipment, the result of which in some cases was not apparent until the last moment? Are you preparing sufficiently against the future? Are you shopping your older equipment as fast as you can—you will need it all. Troops of the Army, Navy and Marine Corps pay for and should get as good equipment as the traveling public and merely because they are soldiers,

sailors or marines is no excuse for placing your oldest equipment in troop train service. Is all of your equipment in first-class shape? Do the reports of poor equipment offered in military traffic indicate a condition which might soon become a shortage? Search these questions well, answer them truthfully and be governed accordingly.

You are all familiar with the Joint Military Passenger Agreement and the benefits derived therefrom by both the military and the railroads. You are also familiar with the various side or supplementary agreements which go to complete our entire military passenger rail transportation picture. The importance of these agreements in my opinion cannot be overestimated and now that the military branches are by far the largest purchasers of transportation in the world, the agreements assume even more importance. They point the way to a simple, logical and orderly method of handling the problem and the rate concessions accorded by them have been of considerable benefit. But I fear that there are many who do not understand the reasons for these rate reductions and the benefits, aside from monetary, which rise from them. For instance, the War department is governed in its actions by a very strict budget. Its job, however, is to train as many men as well and as often as possible. Travel is involved and wherever because of lack of funds it is necessary to cut down, the cutting down will be in travel—those troops will be left at home stations whose own motor transportation is insufficient to carry them. Lower per capita fares, therefore, are beneficial to both the War department and the railroads—more men will be trained and more revenue will accrue.

Being the large purchaser of transportation that it is, the War department should also participate to some extent in the savings accruing therefrom to the railroads. Train-mile revenues from troop trains are much higher than from regular trains. And, when small movements are made in regular service, they are all in addition to regular commercial travel. In other words, by and large military travel is much more remunerative than is regular commercial travel. It is simply a case of lower per unit cost in mass production.

Effective May 5 was the furlough fare of a cent and a quarter per mile with which all of you are familiar. The request originally made by the military branches was for a cent-a-mile fare, but it was not granted much to the regret of the War department. As I stated above, great emphasis is being placed on morale—soldiers will have a large proportion of free time, little money and no place to go unless travel costs are placed well within their reach. The fare recently granted was a step in the right direction, but it did not go far enough.

We must look ahead as best we can and prepare ourselves for what we see, an even bigger upturn in passenger transportation than was anticipated. If this future is prepared for now honestly and squarely in every one of your departments, there will be no difficulty. It is a tremendous task lying ahead, but I have sufficient confidence in the railroads of the United States to believe that it can be done.

THE LONG ISLAND CARRIED a total of 245,815 passengers to and from the Aqueduct Race Track, New York, during 21 racing days recently. This compares with the 189,212 passengers carried during the 18 racing days of the spring meeting in 1940, an increase of 30 per cent. The grand total of passengers carried to and from the three Long Island race tracks—Jamaica, Belmont, and Aqueduct—this spring was 929,382, an increase of 184,941, or 25 per cent, over the same period of a year ago and an increase of 407,461, or 78 per cent, over the same period of 1939, before the introduction of pari-mutuel betting.

Cotton Belt Equities Are Declared Worthless

WASHINGTON, D. C.

FINDING again as it has in several recent reorganization cases that the equities of the preferred and common stockholders have no value and should be given no recognition, the full Interstate Commerce Commission on July 15 made public the details of a final section 77 reorganization plan for the St. Louis Southwestern. Under the new plan, which would become effective as of January 1, 1942, the capitalization, including loans and bills payable, would be reduced from $105,946,995 to $75,000,375; while the fixed interest charges would be pared down from $3,159,045 to $1,513,731. Finance Examiner J. V. Walsh had recommended a reduction in the total capitalization from $107,634,678 to $81,060,439 and a cutting of the fixed charges from $3,379,341 to $1,327,270. Details of his proposed plan were given in the *Railway Age* of February 12, 1938, page 314.

Delay Due to Meyer

The long delay in promulgating a final plan for the Cotton Belt was due primarily to the untiring efforts of Walter E. Meyer, a director of the road and a large investor in its common stock, to have the courts and the commission find that the Southern Pacific, which has controlled the road for the past 10 years, had mismanaged it to the detriment of the minority stockholders.

After the commission, at the repeated urgings of Mr. Meyer, made a long investigation of the question of the Southern Pacific's relationship to the road, it now comes to the conclusion in the instant report that there are no bases for the charges which Mr. Meyer makes. "We are of the view," says the commission, "that Meyer has had a full and fair opportunity to obtain and present evidence in support of his charges, and that such charges have been sufficiently investigated. The request for a reopening of the proceeding is denied." The thoroughness with which the commission has gone into the Meyer matter is attested to by the fact that some 169 pages of the 341-page report are devoted to this question.

Eastman Writes Lengthy Dissent

Chairman Eastman wrote a lengthly dissenting opinion in which he objected to the treatment of the minority stockholders and urged that the case be reopened so that the commission might consider the possibility of providing that the Cotton Belt and the Southern Pacific be merged as a part of the final reorganization plan. Mr. Eastman also reluctantly came to the conclusion that "Meyer has conjured up conspiracies which go beyond the reasonable probabilities of the situation." "Nor do I think," he added, "that he has proved the diversions of traffic which he believed were made, and I doubt whether, even if they existed, which I do not assert, they are capable of proof."

As pointed out above the Southern Pacific has controlled the Cotton Belt for the past decade, holding some 87 per cent of its common and preferred stock. Under the new approved plan, according to Chairman Eastman, the Southern Pacific will own 38.3 per cent of the new preferred and 55.4 per cent of the new common, or 46.9 per cent of the total stock. In Mr. Eastman's language, "there can be little doubt that these percentages of owner-

ship will give it effective control of the reorganized company." The following table gives the new capitalization and charges as approved by the commission:

Issue	Principal amount	Annual Requirement
Undisturbed issues:		
Equipment obligations	$216,000	$9,720
First mortgage certificates	20,000,000	800,000
Gray's Point Terminal bonds	500,000	25,000
Shreveport Bridge & Terminal bonds	450,000	22,500
Texarkana Union Station certificates	315,000	15,750
New Issues:		
Railroad Credit Corporation notes	1,331,300	53,252
Serial maturity	.....	133,130
Consolidated mortgage 4-per cent bonds, due January 1, 1992	14,687,714	587,509
Sinking fund contingent, $179,164 less serial maturity of notes	.....	46,634
Total debt	$37,500,014	$1,693,495
Preferred stock 5-per cent	18,750,022	937,501
Total debt and preferred stock	$56,250,036	$2,630,996
Common stock	18,750,339	.....
Total capitalization	$75,000,375	

The plan further provides that the new bonds and stock shall be distributed to holders of outstanding bonds according to the following table, the amounts stated being the amounts that shall be exchanged for each $1,000 bonds, and pledgees being treated as though the pledged securities were outstanding:

Outstanding Issue	New consolidated Mortgage Bonds	New Preferred Stock	New Common Stock	Cash	Total	Unsatisfied Claim
Second-mortgage certificates	$1,240.00	.....	.....	.....	$1,240.00	.....
First terminal and unifying bonds	468.37	$850.19	.....	(see below)*	1,318.56	.....
General and refunding bonds	180.46	300.70	$435.08	(see below)*	916.24	$406.56
Stephenville bonds	.....	.....	438.90	$97.65	536.55	740.36
Central Arkansas & Eastern bonds	.....	.....	438.90	.....	438.90	729.17

* In addition $139,150 in cash deposited or to be deposited with the trustee of the first terminal and unifying mortgage as interest due January 1, 1936, on pledged second mortgage income bond certificates (not funded in the plan) shall, if so ordered by the court, be paid out to the holders of first terminal and unifying mortgage bonds outstanding and to the holders of general and refunding mortgage bonds outstanding and pledged, at the rate of $6.44 for each $1,000 first terminal and unifying mortgage bond outstanding and $2.20 for each $1,000 general and refunding mortgage bond outstanding or pledged.

The complete distribution of all new securities is set out in the table at the bottom of this page, the percentages shown being the per cents of total claim.

The reorganization managers will be three in number and will carry out the plan under the supervision and control of the court. One will be designated by the Southern Pacific, one by the protective committee for the holders of the first terminal and unifying mortgage bonds, and one by the Bankers Trust Company of New York, as trustee under the second mortgages of the debtor, the St. Louis Southwestern of Texas and the Tyler Southeastern. The plan provides that the board of directors shall consist of not less than nine nor more than 15 members, who shall be elected by the holders of the preferred and common stock of the reorganized company at an election to be held not later than 90 days after the consummation of the plan.

Eastman Notes Meyer's Sincerity

The greater part of Mr. Eastman's 23-page dissent deals with the history of the commission's relations with the Cotton Belt and the various investigations that have been undertaken. Commenting on Mr. Meyer's efforts in the matter, Mr. Eastman remarked at one point in his opinion that "whether he was right or wrong, his sincerity, perseverance, and courage cannot, I believe, be seriously questioned." At another point he declared that it was most difficult to determine the reason for a road obtaining certain types of traffic and that for this reason he did not now favor the continuation by the commission with its own resources of the inquiry into the matters which Meyer has endeavored to carry on, although he regretted that such an investigation was not instituted when he first asked for it.

"It is evident," declared the chairman in discussing the effect of the plan on the various stockholders, "that the real loss of the Southern Pacific, under the approved plan, will by no means be equal to its apparent loss, and that it will have a possibility of recovery of which the minority stockholders, including Meyer, will be wholly deprived."

After noting that he was dissatisfied with the present

Outstanding issue	Principal amount	Principal plus interest to January 1, 1942	Undisturbed	Ten-year 4-percent serial notes	Consolidated mortgage 50-year 4's	Five-per-cent preferred stock	Common stock	Total
Equipment obligations 4½'s series K	$ 216,000	$ 216,000	(100%) $ 216,000					(100%) $ 216,000
First mortgage 4's certificates	20,000,000	20,000,000	20,000,000 (100%)					20,000,000 (100%)
Gray's Point Terminal 5's	500,000	500,000	500,000 (100%)					500,000 (100%)
Shreveport Bridge etc. 5's	450,000	450,000	450,000 (100%)					450,000 (100%)
Texarkana Union Station 5's certificates	315,000	315,000	315,000	(100%) $1,331,300				315,000 (100%) 1,331,300
Railroad Credit Corporation (Jan. 31, 1941)	1,318,076	1,331,300			(100%) $3,772,700			(100%) 3,772,700
Second mortgage 4's ctfs.	3,042,500	3,772,700			(35.3%)	(64.2%)		(99.5%)
First Terminal and Unifying 5's	8,063,000	10,683,475			3,776,467 (13.6%)	$6,855,082 (22.7%)	(32.8%)	10,631,549 (69.1%)
General & refunding 5's	9,327,500	12,358,938			1,683,241	2,804,779	$4,058,209 (34.4%)	8,546,229 (34.4%)
Stephenville 5's	2,318,448	3,093,943 (approx.)					1,063,455 (37.6%)	1,063,455 (37.6%)
Central Arkansas and Eastern 5's	932,232	1,267,352 (")					476,207 (19.5%)	476,207 (98.9%)
Chase National Bank	3,500,000	4,557,591*(")			888,134 (19.5%)	1,479,895 (32.4%)	2,141,246 (47.0%)	4,509,275 (98.9%)
Mississippi Valley Trust Co.	1,000,000	1,302,169*(")			253,637 (18.4%)	422,634 (30.6%)	611,505 (44.3%)	1,287,776 (93.3%)
Southern Pacific Company	17,882,250	23,456,025*(")			4,313,535	7,187,632	10,399,717	21,900,884
Preferred Stock	19,893,600	19,893,600						Eliminated
Common stock	17,186,100	17,186,100						Eliminated
General creditors								As determined by court
Total	105,944,706	120,384,193	21,481,000	1,331,300	14,687,714	18,750,022	18,750,339	75,000,375
Charges			872,970	53,252	587,509	937,501		

Note:—In addition, holders of Stephenville bonds outstanding and pledged will receive $97.65 in cash for each $1,000 of such bonds; and, if so ordered by the court, holders of first terminal and unifying mortgage bonds outstanding will receive $6.44 in cash for each $1,000 of such bonds, and holders of general and refunding mortgage bonds outstanding and pledged will receive $2.20 in cash for each $1,000 of such bonds.

* Interest payable on pledged Southern Illinois & Missouri Bridge bonds deducted.

plan, Mr. Eastman urged the unification of the Cotton Belt and the Southern Pacific. "This is the best possible time for unification of railroad properties," he declared, "for with the demand for railroad labor and all labor which now exists, such unifications can be accomplished without the distress to employees which was so disheartening an accompaniment of consolidation and co-ordination plans during the period of the depression. I realize that the Southern Pacific cannot be forced to agree to a unification with debtor in the form of a lease or a consolidation, but at least it can be given the opportunity to consider a plan of reorganization which will be linked with such a unification, and in my judgment we have ample authority under section 77 of the Bankruptcy Act to see to it that such a plan is considered and, if the record so made warrants, finally to approve it. I would for that purpose reopen the proceeding for further hearing.

"While I voted against approval of acquisition of control by debtor by the Southern Pacific, that control is now, and for ten years has been, an accomplished fact, and there is no reason why the union of the two properties should not take the best possible form. Inasmuch as this will be in the interest of both debtor and the Southern Pacific, I can conceive of no good reason why the latter should object. I am also of the opinion that in view of the large increase in net earnings in which a lease or consolidation would result, a reorganization plan in conjunction with such a unification could be devised which would be more favorable to the security holders, including the minority stockholders, than that which is here approved."

Miller Advocates Issuance of Warrants

"It is apparent to me," wrote Commissioner Miller in his dissenting-in-part opinion, "that the total capitalization authorized in this proceeding is at least $10,000,000 too high when subjected to any of the usual tests, particularly to that of the original cost of the property less depreciation. It does not appear to be necessary to make the consolidated mortgage bonds fixed interest obligations and, as it is much safer to keep fixed charges to a minimum, it would improve the plan if these bonds were made contingent interest securities.

"In my opinion the sinking fund payments should be on the basis of a percentage of the net income. The common stock, and perhaps the preferred, should be no par. I am also of the opinion that the plan herein approved should provide for the issuance of warrants to any unsatisfied creditors and to preferred and common stockholders whose equities are found to be without value at this time." Mr. Miller then referred to his dissenting-in-part expression in the recent Chicago, Rock Island & Pacific reorganization plan, details of which were given in the *Railway Age* of November 16, 1940, page 770.

Wheat Storage Situation Acute

(*Continued from page 114*)

top gondola cars by the Santa Fe. The first car moved from Dighton, Kan., to Hutchinson, with a shipment of 132,000 lb. of wheat, or 2,200 bushels. The car was not loaded to capacity and, apparently, no wheat was lost through scooping by the wind en route. It is expected that, with a tarpaulin cover for the car, a capacity load of 2,800 bushels can be carried, or approximately twice the load of the average box car, which cannot be filled to the top because space must be left for the testers. It was found that gondolas with a center dump cannot be used readily at old-type elevators having wheat "sinks" at the side of the track under one rail, but even at such places, it is proposed that a wooden apron between the hopper bottom and the sink will solve the problem.

Communication . . .

On the Reckless Wiping Out of Stock Equities

PITTSBURGH, PA.

TO THE EDITOR:

Your editorial entitled *Wars to Grab Property—Abroad and at Home*, published in the issue of July 5, 1941, comments on the valuation of the Chicago & North Western Railway, determined by the Interstate Commerce Commission and the Federal Court.

The plan of reorganization, according to your statement, wiped out the entire 181 million dollars of preferred and common stocks. The matter of valuation is of interest to all citizens, particularly investors, and it is fortunate that the principles and methods used in making the appraisal are to be tested in proceedings before the United States Supreme Court.

In this connection I call attention to the *Reasons for Dissent* of the Honorable William Howard Taft in the matter of the award in the Grand Trunk Railway of Canada arbitration September 7, 1921. The reasons for dissent cover 25 printed pages and may well be studied as a whole but I quote only a short portion:

". . . The value we have to determine is, it is true, the value of the shares in May, 1920, but their value in May, 1920, is determined not by the limited earning capacity of the company at that time if there was a reasonable prospect that within a few years its earnings will be greatly increased. I agree the injury done to the property by the war and the absolute losses thereby suffered, those interested in it, bondholders and shareholders as well, must accept as a reduction in the value of their property, but they are not to be held to an earning capacity as of that date. They are entitled to a value then reflected by the prospect of a return to better conditions and an earning capacity within a reasonable period such that the earnings may meet not only the fixed charges but also furnish a dividend on the capital stock.

"We have a right to exercise our judgment as to when a normal condition of affairs will come, and on the basis of our judgment to judge the normal earnings in the future by the normal earnings in the past. More than this, if it be true that the volume of the business done by the company, and which the company is able to do, in spite of the untoward conditions, has shown a steady increase in the amount of business done, at a regular ratio we have the right to predicate an increase in the future. Normality in respect to the Grand Trunk Railway of Canada is one that can be much more safely reasoned about and acted upon than in the case of a new railroad as the Grand Trunk Pacific.

"We can be quite sure that if other railroads in the country are returning to a normal basis, the Grand Trunk is likely to do the same thing. To say that the Grand Trunk on the 21st of May, 1920, at the nadir of railroad prosperity in the world, when purely operating expenses were as abnormally as large as they were, was in a state of bankruptcy, and the interests of its shareholders worth nothing, is, it seems to me, to deal most inequitably with the shareholders. . . ."

Mr. Taft (the late President of the United States and Chief Justice of the Supreme Court) appraised the preference and common stocks at not less than forty-eight million dollars.

EDWIN F. WENDT,
Consulting Engineer.

NEWS

Leon Foresees R. R. Priorities

Price and supply commissar fusses at industry for underestimating demand

Priorities may be used "to control the use of transportation facilities," according to Leon Henderson, administrator of the Office of Price Administration and Civilian Supply, who spoke thus at the July 14 meeting of the New York Housewares Manufacturers Association in Atlantic City, N. J. Other possible uses of the priorities system, according to the OPACS administrator, would be "to allocate the available labor supply as the country nears its production peak, to control access to new capital, and to regulate imports and exports."

From that listing of the prospects for further controls, Mr. Henderson followed through to assert that the railroads, trucks, pipe lines and steamships are the "conveyors in this nation-wide factory" the country is undertaking to operate in the interest of national defense; and he added that transportation "is clearly a problem whose magnitude we have failed to appreciate." The problem which the OPACS administrator sees in connection with transportation, as well as other problems arising out of shortages of materials, will arise, he believes, because "some of us failed in the hectic days of last summer . . . to grasp the magnitude of the defense program."

Something of what Mr. Henderson had to say in the latter connection went as follows: "There has been too much pious shouting about the capacity of American industry to handle any load thrust upon it, too much talk about 'business as usual'. Furthermore there has been far too much concern within industry over the dangers of expansion, too much willingness to accept shortages of raw materials, of plant capacity, of power and freight cars as an inevitable concomitant of all-out production in this country. We have been too prone to think of vested interests, of friends in industry who might be embarrassed when the emergency is over by more plant capacity than it was thought could be used on the basis of past experience. . . .

"We should have been building freight cars last summer with steel which could have been produced then. Instead we lulled ourselves into an apathetic feeling of security by chanting carloadings estimates far too low for the current program. Now, with a widespread shortage of steel facing us, it is going to be a tremendously difficult task to get the materials and the men to build the cars we will need to provide the 'conveyor' system for this plant of ours. The same situation holds for ships. . . . Continually we have thought in terms too small."

Earlier in his address, Mr. Henderson had discussed OPACS' approach to the problem of allocating scarce materials "to civilian industries." There he said in part: "In the first place, there are many essential public services such as maintenance of transportation, of public health, of police and fire protection which must be continued. Next, it seems crystal clear that provision must be made for materials needed for repairs. Also—that all transportation needs, such as essential freight cars, pipe lines, barges, should have clear claim to our precious residual supplies. I cannot spell out the order of all civilian priorities. It is obvious, however, that not until the needs I recited above have been met will there be anything left for conversion into consumer goods."

George McCormick Receives Degree from Texas A. & M.

George McCormick, general superintendent of motive power of the Southern Pacific, received the honorary degree of Doctor of Engineering from the Texas Agricultural and Mechanical College at its annual commencement ceremonies on June 6. Mr. McCormick graduated from the college in 1891 and the award was made "in recognition of the eminent position he has attained in America's railroad industry, and in particular recognition of the outstanding contributions he has made to engineering service through his numerous inventions and designings that have been important factors in the constant improvement of railroad equipment and maintenance practices."

President Seeks Power to Establish Daylight Saving Time

President Roosevelt on June 15 submitted to Congress the draft of proposed legislation which would permit him to provide daylight saving time, upon such a regional or national basis, and for such part, or all, of the year, as he might deem necessary in the interest of national defense. The President's proposal went to Congress in letters sent to the Speaker of the House and the President of the Senate.

The request was based on advices Mr. Roosevelt had received from the Federal Power Commission, Department of the Interior, and Office of Production Management to the effect that there is "immediate need" for extension of daylight saving time to bring about savings in the use of electricity.

Budd Says Car Building Lags

Tells Short Line Assn. that program is 7,500 behind with further delays foreseen

More efficient use of existing railroad facilities holds the possibility of increasing, by 25 per cent, the carrying capacity of the railroads and of avoiding a transportation bottleneck that might occur during the expanding business of the emergency, Ralph Budd, transportation commissioner of the advisory commission to the Council of National Defense, told a meeting of directors of the American Short Line Railroad Association at Chicago on July 14. Maximum use of the transportation plant, he indicated, is particularly important in view of the fact that the car building and repair program has slowed down because there has been some difficulty in securing materials.

Orders for repair parts are not being filled promptly and stocks of repair parts are being depleted through inability of manufacturers to obtain material, he said. Car and locomotive builders, he continued, are not affected by material delays to the same extent as shops making repairs. He warned against delaying car and locomotive building, pointing out that car builders are already behind about 7,500 cars on their orders. At the rate of the present interruptions due to shortage of material, the railways may fall 20,000 cars short of the program set up for completion by October 1. Unless material is released for railway use, he said, the program will fall down worse in the future because, for the year ending October 1, 1942, the railways had hoped to add 120,000 cars to their ownership. When retirements are included, this would mean a 160,000 car program between October 1, 1941 and October 1, 1942.

"The problem of providing adequate transportation in such times as these," he said, "is one of joint interest and responsibility, and can be solved best by the cooperation of all parties who must share that responsibility. It can be divided several ways for discussion. Most important is how to get the maximum use of the existing transportation plant. The railroad part of this plant handles nearly two-thirds of the total traffic of the country and consists of approximately 45,000 locomotives and 1,950,000 cars, including those of non-railroad ownership. The best utilization of these cars and locomotives can be obtained only if the users, that is, the

(*Continued on page 135*)

How Harrington Clause Applies

I. C. C. lays down elaborate rules for paying help, demoted by joint carrier action

The Interstate Commerce Commission, acting through Division 4, has applied, for the first time, in detail, the labor-protection conditions made mandatory by the so-called Harrington Amendment to the Transportation Act of 1940, in Finance Docket No. 12843, Texas & Pacific Railway Company et al. Operation. Although this is the first detailed setting out of conditions in a complicated case involving a considerable number of employees, Division 4 first applied the conditions in the relatively simple case involving the application of the Pennsylvania and its subsidiary, the Cleveland & Pittsburgh, and the Pittsburgh & Lake Erie to purchase the Beaver Valley in Finance Docket No. 13242, details of which were given in the *Railway Age* of May 31, page 990.

In the instant case the Missouri Pacific, the Texas & Pacific and the Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans has been authorized to abandon existing car ferry operations in New Orleans and to use, instead, a bridge across the Mississippi River. To carry out the project Division 4 has authorized the T. & P. and the M. P. to operate under trackage rights over the Public Belt from Avondale, La., to New Orleans, 15.3 miles. The roads are also authorized to construct about one mile of interchange tracks in New Orleans.

At the same time, for lack of jurisdiction, Division 4 dismissed that part of the application asking authority to operate over 1,340 ft. of the Illinois Central and seven miles of track of the New Orleans Terminal.

As a preface to the labor-protection conditions attached to the order, Division 4 states that inasmuch as the proposed plan of operation, so far as the employees adversely affected are concerned, involves dismissal, and as some of them no doubt will exercise their seniority rights thereby displacing other employees, the essential arrangement may be limited to displaced and dismissed employees. It goes on to say that the transfer of employees is not contemplated.

The authorization for the abandonment of ferry service is granted subject to the following conditions:

1. If, as a result of the transaction herein approved, any employee of the Texas & Pacific, the Texas Pacific-Missouri Pacific Terminal of New Orleans, or Guy A. Thompson, trustee of the Missouri Pacific, hereinafter referred to as the carriers, is displaced, that is, placed in a worse position with respect to his compensation and rules governing his work conditions, and so long thereafter as he is unable, in the exercise of his seniority rights under existing agreements, rules, and practice, to obtain a position producing compensation equal to or exceeding the compensation he received in the position from which he was displaced, he shall be paid a monthly displacement allowance equal to the difference between the monthly compensation received by him in the position in which he is retained and the monthly compensation received by him in the position from which he was displaced. The latter compensation is to be determined by dividing separately by 12 the total compensation received by the employee and the total time for which he was paid during the 12 months immediately preceding his displacement as a result of this transaction (thereby producing average monthly compensation and average monthly time paid for in the test period). If his compensation in his retained position in any month is less than the aforesaid average compensation in the test period, he shall be paid the difference, less compensation at the rate of the position from which he was displaced for time lost on account of his voluntary absences in his retained or current position, but if in his retained position he works in any month in excess of the average monthly time paid for in the test period, he shall be compensated for the excess time at the rate of pay of the retained position; provided, however, that nothing herein shall operate to affect in any respect the retirement on pension or annuity rights and privileges in respect of any employee; and provided further, that if any employee elects not to exercise his seniority rights, he shall be entitled to no allowance. The period during which this protection is to be given, hereinafter called the protective period, shall extend from the date on which the employee was displaced to the expiration of four years from the effective date of our order herein; provided, however, that such protection shall not continue for a longer period following the date of our order herein than the period during which such employee was in the employ of the carriers prior to the date he was displaced.

2. If, as a result of the transaction herein approved, any employee of the carriers is deprived of employment with said carriers, hereinafter referred to as a dismissed employee, because of the abolition of his position or the loss thereof as a result of the exercise of seniority rights by an employee whose position is abolished as a result of the transaction herein approved, he shall be accorded a monthly dismissal allowance equivalent to one-twelfth of the compensation received by him in the 12-month period prior to the date when he was affected by this transaction. This allowance shall be made during the protective period to each dismissed employee while unemployed.

The dismissal allowance of any dismissed employee who is otherwise employed shall be reduced to the extent that his combined monthly earnings in such other employment and his dismissal allowance exceed the amount upon which his dismissal allowance is based. Such employee, or his representative, and the carriers should agree upon a procedure by which the carriers shall be currently informed of the wages earned by such employee in employment other than with the carriers.

The dismissal allowance shall cease prior to the expiration of the protective period in the event of the failure of the employee without good cause to return to service after being notified by the applicant of a position, the duties of which he is qualified to perform and for which he is eligible, or in the event of his resignation, death, retirement on pension, or dismissal for good cause.

3. No employee affected by the transaction approved herein shall be deprived during the protective period of benefits attached to his previous employment, such as free transportation, pensions, hospitalization, relief, etc., under the same conditions and so long as such benefits continue to be accorded to other employees on his home road, in active service or on furlough, as the case may be, to the extent that such benefits can be so maintained under present authority of law or corporate action or through future authorization which may be obtained.

4. In the event that any dispute or controversy arises which cannot be settled by the carriers and the employee, or his authorized representatives, within 30 days after the controversy arises, it may be referred, by either party, to an arbitration committee for consideration and determination, the formation of which committee, its duties, procedure, expenses, etc., shall be agreed upon by the carriers and the employee, or his duly authorized representatives.

North American Car Plans to Merge

A plan for the merger of the North American Car Corporation, Chicago, and the Palace Poultry Car Company, a wholly owned subsidiary will be voted upon by stockholders at a special meeting on August 5.

T. & T. Section to Meet September 23-25

The Telegraph & Telephone section of the Association of American Railroads will hold its 22nd annual session at the Hotel Gibson, Cincinnati, O., September 23 to 25, inclusive, the first day's session convening at 10 a. m.

Tariffs Required for Red Cap Fees

I. C. C. thinks charge of dime per grip is okay, but tariffs must be filed to cover

The carrying of baggage by red caps and the Cincinnati Union Terminal's fee for it are subject to regulation by the Interstate Commerce Commission, and the terminal company must file a tariff covering its charge for that service in accordance with section 6 (1) of the Interstate Commerce Act. Such is the two-to-one finding of Division 3 of the commission, in the case of Ida M. Stopher v. the Cincinnati Union Terminal Company, Inc., No. 28495.

Commissioner Mahaffie wrote a short dissenting-in-part opinion in which he reached the conclusion that the service under consideration is a personal one, "not of a character the carrier can be required under law to perform, and not subject to our jurisdiction." He would, therefore, have had the complaint dismissed.

The case came to the commission in the form of a complaint filed on April 24, 1940, by one Ida M. Stopher, a resident of Cincinnati, in which she alleged that the terminal's charge of 10 cents for each piece of baggage carried at the Cincinnati, Ohio, passenger station by red caps is illegal as it is not authorized by tariff publication; that it is unreasonable as the service is a part of the railroad transportation and is covered by the fare paid for the railroad ticket; and that the charge is not uniformly applied, thereby causing unjust discrimination and undue prejudice and preference.

The United Transport Service Employees of America, formerly known as the International Brotherhood of Red Caps, intervened in support of the complaint and participated in the proceeding. At the oral argument, details of which were given in the *Railway Age* of April 12, page 663, counsel for the terminal company charged that the suit had been filed as a result of collusive action on the part of the complainant and the Red Cap union, and that the only interest the red caps had in the suit was to get the commission to outlaw the 10-cent charge so that they would get their minimum hourly wage of 36 cents under the Fair Labor Standards Act and also whatever tips they could collect.

Division 3, in its opinion, points out that the complainant had a previous conference with union officials before she made the trip for the purpose of obtaining information to be used in the complaint which was subsequently filed.

Prior to the oral argument Examiner Claude A. Rice, in a proposed report which was reviewed in the *Railway Age* of February 1, page 261, had recommended that the commission find that it had no authority to regulate the charges collected by red caps except to the extent necessary to prevent violations of the rebate and discrimination provisions, embodied in section 2 and 6(7) of the Interstate Commerce Act.

Taking up the question of the nature of the red cap service, Division 3 points out

(*Continued on page 134*)

Name Committee on Truck Wages

As in case of railroads, professors are assigned to represent "public"

Two committees to recommend minimum wage rates for employees of the motor carrier industry have been appointed by General Philip B. Fleming, administrator of the Wage and Hour Division, U. S. Department of Labor. One, the committee for the passenger motor carrier industry, will conduct a public hearing in Washington, D. C., beginning September 3; the other committee, for the property motor carrier industry, will conduct a public hearing in Washington beginning September 8. Both will be under the chairmanship of George E. Osborne of the law faculty of Leland Stanford University, Palo Alto, Calif.

The committees are directed by the Wage and Hour Law to investigate economic and competitive conditions in their respective industries and to recommend the highest minimum wage up to 40 cents an hour which will not substantially curtail employment in the industry. It is estimated that about 75,000 employees of the motor carrier industry as a whole are now receiving wages of less than 40 cents an hour.

As noted above, Mr. Osborne has been designated as chairman of both committees. The bus industry committee consists of 12 members—four representing the "public," four the employees, and four the employers. Each of those three interests have six representatives on the truck-industry committee of 18. In addition to Chairman Osborne, the "public" representatives on the bus committee are: William Homer Spencer of the University of Chicago's School of Business; Alexander Hamilton Frey of the University of Pennsylvania Law School; and Charles T. McCormick of the University of Texas Law School. These will serve also as "public" representatives on the truck committee, the two additional "public" members of that committee being Douglas B. Maggs of Duke University, Durham, N. C., and E. V. Johnson of the United States Envelope Company, Springfield, Mass.

Employee members of the bus-industry committee are: Sam B. Berrong, of the Amalgamated Association of Street, Electric Railway & Motor Coach Employees of America; J. A. Farquharson of the Brotherhood of Railroad Trainmen; Horace A. Bacus of the Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express & Station Employees; and Carl R. Anderson of the International Association of Machinists. Messrs. Bacus and Anderson are also among the six employee representatives on the truck-industry committee, the other four being: Arthur Hollister of the International Association of Machinists; Robert A. Borden and Thomas P. O'Brien of the International Brotherhood of Teamsters, Chauffeurs, Warehousemen & Helpers of America; and H. D. Ulrich of the Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express & Station Employees.

Representatives of employers on the bus committee are: Hawley S. Simson, American Transit Association, New York; J. C. Johnson, Chicago & Calumet District Transit Company, Hammond, Ind.; Ivan Bowen, Greyhound Lines, Minneapolis, Minn.; and C. G. Schulz, Union Bus Lines, Jacksonville, Fla. On the truck-industry committee, employers will be represented by: Allan J. Wilson, A. Towle Company Express, Boston, Mass.; Charles P. Clark, Columbia Terminals Company, St. Louis, Mo.; N. P. Strause, Vance Trucking Company, Inc., Henderson, N. C.; E. A. Casarolle, Automobile Shippers, Inc., Detroit, Mich.; J. A. Wilkinson, Carolina Transfer & Storage Company, Charlotte, N. C.; C. J. Hargleroad, Hargleroad Transport Service, Hastings, Nebr.

Status of R. F. C. Rail Loans

The monthly financial statement of the Reconstruction Finance Corporation as of June 30, shows disbursements to railroads (including receivers) of $810,325,175 and repayments of $340,568,216.

North Coast Limited Derailed

The "North Coast Limited," enroute from Seattle, Wash., to Chicago, was derailed at Hooper, Wash.. on the Spokane, Portland & Seattle on July 15. Seven cars left the rails while passing through a rock cut. Two persons were injured seriously and 25 received minor injuries. A broken coupler is believed to have caused the accident.

P. R. R. Spends 3½ Million in N. Y. Area in 12 Months

More than $3,640,000 has been spent by the Pennsylvania during the past year for improvements to its freight handling facilities in the port of New York area, with much of this work already completed and the remainder well under way. Included in the program, which is in addition to normal maintenance and repair work, were the construction of 14 carfloats, 12 lighters, three barges, and two steam tugs; construction of additional track facilities in the New Jersey approaches; improvements to various piers in Manhattan and in Jersey City; building of locomotive handling facilities at Greenville, N. J.; reopening of the car repair shops at the Meadows yard, Kearny, N. J.; purchase of new cranes and freight handling equipment for use on the piers; improvements to the float bridges at various points and installation of reverse signalling between West Newark, N. J., and Rahway, to increase the track capacity and efficiency of operation over the main line of the railroad.

In addition, the Pennsylvania has acquired from the city of New York the use of Piers 40 and 50, North river, to supplement its present facilities for handling general merchandise freight. Pier 40, at the foot of West Houston Street, is 764 ft. long and 69 ft. wide, 742 ft. of its length being covered. Pier 50, at the foot of Bethune Street, is 728 ft. long and 125 ft. wide, covered for 682 ft. of its length. It was formerly used by the Southern Pacific's "Morgan Line."

Fiorello Sings Requiem on RRs.

Mayor of N. Y. sees end to carriers and prefers the ditch as "progress" and "natural"

Hearings were continued this past week before the House rivers and harbors committee on the St. Lawrence power and seaway project with opponents of the idea taking up most of the committee's time. The House has authorized the committee to visit the site of the project in Canada, and the latest plans are for the committee to leave on July 18 and return July 22, with further hearings continuing after that date.

Chairman Mansfield, Democrat of Texas, inserted in the appendix of the Congressional Record this week an extension of his remarks in which he defends official estimates of the cost of the project against attacks made in a recent radio address by Representative Van Zandt, Republican of Pennsylvania.

After asserting that the total cost of the project might reach in excess of $1,000,000,000, Mr. Van Zandt had also said that it would cost the government another billion dollars to defend it. If this estimate is true, said Mr. Mansfield, then there are many other projects in the country which will also have to be defended at enormous cost to the taxpayers. In this list he included Grand Coulee and Bonneville dams on the Columbia River in Oregon and Washington, and the Tennessee Valley Authority.

He also wondered why the Pennsylvania had been urging the committee to promote the use of steam power instead of water power for the purposes of national defense when that carrier continued to use electricity for its trains generated from water power at Conowingo Dam.

Included in the list of witnesses appearing before the committee during the past week were the following opponents: Fred M. Renshaw, traffic manager of the Buffalo Chamber of Commerce; Ernest F. Hughitt and John A. Ulinski, members of the Buffalo City Council; John J. Northrup and George S. Grimm, members of the Niagara County Board of Supervisors; Representative Butler, Republican of New York; Frederick K. Wing, city engineer of Buffalo; H. L. Bodman, New York grain trader and representative of the New York Produce Exchange; Frederick W. Burton, manager of the transportation bureau of the Rochester Chamber of Commerce; Charles L. Raper, dean of the College of Business Administration of Syracuse University; Michael E. Regan, representing the Port of Buffalo Defense Committee, and Edmund D. Sullivan, president of Local 1462, International Longshoremen, Great Lakes District. The sole proponent to appear was Mayor LaGuardia of New York City.

All of the Rochester and Buffalo witnesses opposed the project, saying that it would do great damage to their communities by bringing in foreign shipping and dislocating their industries. They unani-

mously declared that the project was not in the interest of national defense and urged the committee to refuse to report the enabling legislation.

Mayor LaGuardia told the committee that the construction of the project would not hurt the commerce of the port of New York and would produce lower electric rates for its residents. The Mayor was asked why he did not stress the defense angle in his presentation. He replied that he felt that the projects value "transcends the present world troubles" and would remain for many years after the present world troubles had ended. "I like to see projects presented on their real merits," he declared, "and not as just something necessary to defense. That's a bad habit we're getting into, and as an executive I have had to slap it down in New York City."

The Mayor also told the committee how he felt about the opposition of the railroads to the project. "Oh, the poor railroads," began Mr. LaGuardia. "Let me tell you about the railroads. They started thinking about five or six years ago. They should have started 40 or 50 years ago, and if they are in a mess there is nobody to blame but themselves. If, when the railroads were first established in this country, following by 50 years the building of the first railroad, if the management of the railroads had paid more attention to the turning of the wheels of the railroads instead of the turn of the stock ticker, they would not be in the mess they are in today."

Representative Smith, Democrat of Washington, wanted to know whether the Mayor felt that the railroads' opposition was justified.

"Well," replied the Mayor, "they are in a mess anyhow, and we cannot stop progress to try to pull them out of a mess. Some of these days, do you know what is going to happen? Somebody will foreclose on them, and that will be the end of the railroads. They cannot even adjust competition among themselves. There are more trunk lines than are necessary, and they just cannot adjust their own business, and then they have the nerve to come up before a committee of Congress and try to stop progress because a natural way of transportation is to be developed, now, I have heard that all of the time. I know these railroad fellows, and they are nice fellows, but they do not impress. They should have started thinking 45 or 50 years ago, and not now."

Suspends Increases in Rates for Tourist-Sleeper Berths

The Interstate Commerce Commission has suspended from October 1, until May 1, 1942, tariffs published by the Chicago, Milwaukee, St. Paul & Pacific, proposing to increase the rates for berths in tourists sleeping cars in Illinois, Wisconsin and states west of the Mississippi river.

More Plate Capacity for Car Materials

Capacity of wide strip steel mills to make light plates for railroad cars, ships and other purposes will be increased 754,000 tons to a total of 2,480,000 tons by the early part of 1942, according to the Office of Production Management. W. A. Hauck, OPM steel consultant, disclosed that outlook after visiting several strip mills and compiling results of a questionnaire submitted recently to the 13 mills rolling strip 54 in. or more wide.

Present total capacity of these mills is 12,941,400 tons, of which 1,726,000 is light plate capacity and 11,215,400 is for the manufacture of strip. Of the additional plate capacity to be provided, 654,000 tons will be obtained gradually by the end of this year and 100,000 will be available by March 1, 1942. The OPM announcement said that a regulation will be issued shortly to all steel companies with strip and plate capacity, requesting them to reallocate to strip mills plates now scheduled for the regular plate mills, in cases where the sizes and quantities are better suited for strip mill production. Meanwhile, additional heavier plate capacity is being installed by some of the companies that have strip mills, and more plate capacity is being provided also by companies not operating strip mills. Further additional capacity is proposed in the overall expansion of the steel industry now under consideration.

J. W. Smith Elected Eastern Wage Negotiator

J. W. Smith, vice-president and general manager, Boston & Maine, and general manager, Maine Central, has been elected chairman of the Eastern railroads' conference committee which is now handling the several demands of the railroad unions for wage increases. He succeeds R. W. Brown, whose election as president of the Lehigh Valley was reported in last week's issue.

I. C. Directors Participate in Shipper's Fiftieth Birthday Celebration

Directors of the Illinois Central held their monthly meeting at Waterloo, Iowa, on July 10, in recognition of the fiftieth anniversary of the founding of the Rath Packing Company, a large shipper at this point. Officers of the packing company and the city joined with officers and directors of the railroad in celebrating the founding of the company.

N. Y. Central Fan Trip

The New York Central, Boston & Maine and Hoosac Tunnel & Wilmington will operate a trip for railroad enthusiasts from New York to Readsboro, Vt., on July 27. An observation coach will be carried on a regular train of the New York Central to North Adams, Mass., where the excursionists will board a B. & M. train for Hoosac Tunnel, Mass. From there they will ride over the short line on a train of "benched" gondola cars.

Henderson Looks to Intercoastals to Assure "Reasonable Rates"

Commenting recently on information he had received that "enough vessels will be retained in the intercoastal service to assure continuance of important movements of commodities between the Atlantic and Pacific seaboards," Leon Henderson, administrator of the Office of Price Administration and Civilian Supply, called such information "unusually important in that it assures reasonable rates for transportation to the Pacific coast of iron and steel products from mills adjacent to the Atlantic seaboard and for the transportation of lumber and other essential commodities from the Pacific coast to eastern seaboard consuming centers."

Presumably Administrator Henderson was thus getting in a plug for the pending request of government departments and representatives of the iron and steel industry for drastic reductions in trans-continental rail rates on iron and steel. G. Lloyd Wilson, director of OPACS' Transportation Division, has been active in that movement for a rate cut, which the railroads have thus far declined to make. However, further representations are being made to the carriers.

Fire Destroys Burlington Kiln at Havelock

A lumber kiln of the Chicago, Burlington & Quincy at Havelock, Neb., was destroyed by fire on July 9. Although the damage to the unit and material amounted to only $13,000, the plant is an important unit in the company's car building program being undertaken in its car plant at this point. Work on the construction of a new kiln, started immediately, will be completed on August 2.

Wage Conferences to Start July 24

Conferences between a committee representing the Western railways and representatives of 19 railway brotherhoods on demands for a 30 per cent increase in wages will start at Chicago on July 24, it was decided by both groups at meetings at Chicago on July 9-11. The first conference will be with representatives of the five operating brotherhoods and will be followed by another with the 14 non-operating unions on July 25. The railroad committee will meet each group on alternate days during the duration of the conferences.

I. C. C. Organization Changes

The Interstate Commerce Commission has announced that Commissioner Miller has been assigned to Division 3 in lieu of Commissioner Alldredge. Division 3 now consists of Commissioners Mahaffie, Miller and Johnson, "except that Commissioner Patterson shall serve in lieu of Commissioner Miller with respect to matters arising under Section 25(a)-(g), inclusive, of the Interstate Commerce Act, Railroad Retirement Act of 1937, Carriers Taxing Act of 1937, Railroad Unemployment Insurance Act, Railway Labor Act, Safety Appliance Acts, Locomotive Inspection Act, Ash Pan Act, Accident Reports Act, Hours of Service Act, Block Signal Resolution of June 30, 1906, Sundry Civil Appropriation Act of May 27, 1908, and Medals of Honor Act."

Also, the commission has issued an order modifying its assignment-of-work schedule. It adds to the list of Division 2's assignments the following: "Formal complaints and suspension cases in which the issues relate primarily and predominantly to the interpretation or application of tariffs." Division 3 gets "Formal complaints handled under shortened procedure

in accordance with Rule of Practice X-A, other than those in which the issues relate primarily and predominantly to the interpretation or application of tariffs." Finally, the second paragraph under the heading "Assignments of Duties to Individual Commissioners" in the present organization schedule is amended to read as follows: *"To the Individual Members of Divisions 2 and 3*—In rotation, shortened procedure cases under Rule of Practice X-A submitted to Division 2 or Division 3 according to the assignment heretofore made."

OPM Preparing Preference Rating for Locomotive Materials

The Office of Production Management has in preparation an order which will grant locomotive builders preference ratings to aid them in obtaining scarce materials, it was stated at OPM this week. As noted in the *Railway Age* of June 21, page 1124, OPM on June 19 granted A-3 ratings to 60 freight-car builders. Meanwhile, it has also been learned that no OPM preference ratings will be issued for steel for passenger-car construction, a determination having been made that there is no immediate necessity for such action.

Locomotive materials were given preferential delivery status under a civilian allocation program issued July 7 by the Office of Price Administration and Civilian Supply, while a similar OPACS declaration of policy with respect to freight car materials was issued on June 10.

Status of Santa Fe News Agents

Work of news agents on trains of the Atchison, Topeka & Santa Fe has been found by the Interstate Commerce Commission, Division 3, to be performed by persons in the employ of that carrier. The effect of the decision is to bring the employees involved under the Railway Labor Act.

Commissioner Johnson dissented, claiming that the commission had no jurisdiction to determine the issue as presented, i. e., whether the news agents were eligible for Railway Labor Act coverage. However, the dissenting commissioner had this to say: "The only jurisdiction we have under the fifth paragraph of section 1 of the Railway Labor Act is to amend or interpret orders defining work as that of employees or subordinate officials. If the question submitted were whether our orders should be amended to so define the work of news agents on the Santa Fe, I would be inclined on the evidence now before us to find in the affirmative."

Bills in Congress

Representative Edwin Arthur Hall, Republican of New York, has introduced H. R. 5263 to provide "for transportation home during furlough for persons inducted into service under the provisions of the Selective Training and Service Act of 1940." The bill would authorize the issuance of furlough travel certificates to selectees, the certificates to be redeemed by transportation agencies at the Treasury on the basis of regular fares for the transportation involved.

Senator Andrews, Democrat of Florida, has introduced S. 1734 to amend the survivor-annuity provisions of the Railroad Retirement Act.

Another amendment to the Railroad Retirement Act is proposed in H. R. 5320 introduced by Representative Bennett, Republican of Missouri, to provide for eligibility for full annuities in the case of individuals who shall be 60 years of age or over, have completed 15 years of service, and are totally and permanently disabled.

Representative Weiss, Democrat of Pennsylvania, has introduced H. R. 5314 to amend the Railway Labor Act to extend the provisions thereof to motor carriers of passengers and property.

June Operating Revenues 30.2 Per Cent Above Last Year

Preliminary reports from 87 Class I railroads, representing 81.8 per cent of total operating revenues, made public July 15, by the Association of American Railroads, show that those roads, in June, had estimated operating revenues amounting to $367,080,657 compared with $281,935,333 in the same month of 1940 and $364,378,248 in the same month of 1930. The June gross was 30.2 per cent above that for June, 1940, and 0.7 per cent above June, 1930.

Freight revenues of the 87 Class I roads in June, amounted to $303,596,455 compared with $226,800,617 in June, 1940, and $271,720,651 in June, 1930—33.9 per cent above the former, and 11.7 per cent above the same month in 1930. Passenger revenues totaled $37,150,692 compared with $30,231,449 in June, 1940, and $56,752,197 in June, 1930—22.9 per cent above the former, but 34.5 per cent below the same month in 1930.

Railroads Must Charge Rent for Use of Packing Sheds

The Interstate Commerce Commission has found that the failure of railroads, in certain instances, to charge any rental, or adequate rental, for the use by fruit and vegetable shippers of packing sheds and similar facilities in Texas and Louisiana is unlawful in violation of section 6(7) of the Interstate Commerce Act. The decision to which Commissioners Aitchison, Porter and Splawn dissented in part, is in Part VII of the commission's general Ex Parte 104 investigation of Practices of Carriers Affecting Operating Revenues or Expenses; and the majority report follows generally the recommended findings of Examiner G. H. Mattingly's proposed report which was reviewed in the *Railway Age* of November 2, 1940, page 659.

The commission found that it could do no more than lay down certain broad general principles for the collection of proper rentals for the future, it being impracticable to prescribe in detail the terms whereby the railroads should lease the facilities running "the entire gamut of structures which it is possible to use for the preparation of vegetables for shipment, ranging from well constructed, substantial, completely enclosed buildings located in cities and towns, to crude uncovered platforms on country sidings." Generally, the commission concluded that rents in individual producing areas should be upon a uniform basis per square foot of space occupied, arrived at upon an average basis; and that the rents should, so far as possible, be sufficient in the aggregate to yield a fair return on the value

Do Americans Deserve to Be Free?

"In this dark hour of its great adventure America surely deserves and as surely desperately needs the utmost candor, competence, courage and integrity which she can command or which a merciful Providence can grant in the leadership of her government, her business management and her labor. . . . The true America does not move to its battles or its ballot boxes on its belly. It has something more to fight or vote for than its public corn-cribs, its political swill-barrels, or its silver pigsties. . . .

"The American people should remember that the rescue or wreckage of their country does not rest in the hands of those walking shadows, those poor players of political power, who strut and fret their brief hour on this world's stage and are heard no more. . . . No matter how supreme its power, or how complete its competence, the State can create nothing that does not already live and grow, nor destroy anything that is not dead already in the spirit of its people. . . .

"Liberty is not granted us by grace of governments, constitutions, courts or Congresses, nor can we depend upon these permanently to preserve and protect it for us. . . . Liberty springs solely from the spirit of those common citizens who have the will and courage to create it for themselves, the strength and integrity to accept its responsibility and pay its price, the valor, vigilance, fortitude and fidelity to defend it with their life against its unseen, incessant and insiduous enemies—indifference, ignorance, indolence and injustice. Save as it is more precious to us than prosperity, peace, comfort or security, it will never exist or endure long among us. . . ."

—From an Address by Dr. Virgil Jordan, President, National Industrial Conference Board.

of the facilities after paying all carrying charges. However, the suggestion that the rental include a fair return would not be made a requirement with respect to existing facilities; but it would be a requirement with respect to any new facilities built.

The entry of an order was found unnecessary, but the respondent railroads were reminded of their "obligation . . . to put their house in order." Meanwhile the carriers are directed to submit to the commission annual statements describing each facility, its value, the rental basis, the extent to which it was used by shippers, and the rent actually collected.

The dissenting-in-part expressions came in two brief statements—one by Commissioner Aitchison with whom Commissioner Porter agreed, and the other by Commissioner Splawn. The former two objected to the idea of disregarding the element of fair return in fixing rentals on existing facilities; while Mr. Splawn was not convinced that any unlawful practice had been shown in the matter of furnishing without charge such of the facilities as are "of a makeshift character and used for only short shipping seasons.

Would Equalize Freight Charges on Defense Materials

Springing what he called "a rather new idea," Senator Stewart, Democrat of Tennessee, on July 10 introduced Senate Joint Resolution 90 to provide payments for the purpose of equalizing, as between the different territories or regions of the United States, freight charges for the transportation of defense materials during the existing emergency.

The resolution mentions "authentic reports" which indicate that "those regions or territories of the United States that are being discriminated against in the matter of freight rates are also being discriminated against in the location of industries for the production of defense materials." It would authorize the appropriation of such sums as may be necessary to equalize the situation, setting up a rule whereby the Interstate Commerce Commission would determine what the equalization payment should be and who should get them. The Treasurer of the United States would be required to make payments in accordance with the I. C. C. certifications.

1½ Million Members of Armed Forces Carried in 6 Months

Nearly one and one-half million members of the nation's armed forces were transported by railroad in the first six months of 1941, according to the Military Transportation Section of the Association of American Railroads. "The transportation of this army was accomplished without interference with the regular freight and passenger service," the A. A. R. statement said.

The total number of men actually moved by the railroads in the first half of this year was 1,452,303. This included the armed forces of the Army, Navy, Marines and selectees, as well as members of the Civilian Conservation Corps. Of that number, 859,290 were handled on 2,861 special trains. The remaining 593,013 were handled on regular trains. Included in the latter were 503,425 selectees who for the most part were moved from induction stations to reception centers. The largest number of selectees moved in any one month took place in March, when there were 133,841, with April ranking second with 103,035.

Rail movement of armed forces was greater in June than in any, except March, of the preceding months, the number transported in June having been 279,151, of which 185,391 were moved in 611 special trains and 93,760 were handled on regular trains.

Williamson and Budd "Lay Keel" of New Empire State

The "keel laying" of new equipment for the New York Central's Empire State Express was celebrated at the Budd plant in Philadelphia, Pa., on July 14, when F. E. Williamson, president of the road, and Edward G. Budd, president of the car manufacturing company, made the first weld in the center sill of the first of the 32 cars under construction for the 50-year-old New York-Buffalo run. First of the cars will be completed within three weeks, with delivery of the completed train scheduled for early fall. A large public was made aware of this latest step by a major railroad to improve passenger service by broadcast of the ceremony over station WFIL.

In a short talk during the ceremonies, Mr. Budd said in part: "We are fully conscious of the history behind the building of this train. Fifty years ago railroad men of another generation selected the best in the way of railway cars then available and arranged for the best schedule possible from New York City north along the Hudson river to the west." Mr. Williamson, in responding, declared: "We feel sure that this new train, which will afford to coach passengers the greatest comfort, speed and safety in the history of travel by rail, will add new lustre to the fifty-year-old tradition of the Empire State Express. In years to come I think it will serve as a milestone in the development of modern railroad passenger service for the benefit of the American public."

Among the group of railroad men and Budd executives present were Colonel Van Voorhees, a living member of the original crew of the Empire State Express on its first run in 1891, and two members of its present-day crew. Mr. Van Voorhees, who was rear brakeman on the historic first run of the "Empire," served as conductor on the train for 18 later years. He retired from service in October, 1938.

Bus and Truck Survey

The nation-wide inventory of all trucks and buses will get under way early in September, according to John M. Carmody, Federal Works Administrator. All information needed in planning the use of trucks and buses in meeting any emergency is to be collected at the request of the Highway Traffic Advisory Committee to the War Department. Printed forms and detailed instructions have been forwarded to each of the state motor vehicle registration agencies which will aid in the inventory.

Two units of the Federal Works Agency are cooperating in this work. The Public Roads Administration has planned the procedure for the inventory and its state representatives will cooperate with state motor vehicle registration agencies in collecting the information. The Work Projects Administration will furnish assistance where needed in mailing the questionnaires and assembling the returns. Each truck or

Presidents F. E. Williamson of the New York Central (left) and Edward G. Budd of the Budd Manufacturing Company, Took Off Their Coats and Rolled Up Their Sleeves to Make the First "Shot-Weld" On a New Car For the Empire State Express on July 14

bus owner will receive by mail a questionnaire card with the request that it be filled out and returned promptly. All information given will be held strictly confidential. It will be used "in developing plans for the more effective use of highway transportation in the assembly of defense-industry materials, delivery of military and civilian supplies, relief of dock and terminal congestion, and movement of passenger traffic in emergencies."

Violators of Elkins Act Indicted by Federal Grand Jury

Federal indictments, charging several railroads, individuals and produce companies with violation of the Elkins Act, were returned by a Federal grand jury before Judge William H. Holly at Chicago on July 16.

Those named were the Alton, the Chicago, Burlington & Quincy; the Illinois Central; the Pacific Fruit Express, as agent for the Southern Pacific; Norman Pitcairn and Frank C. Nicodemus, Jr., Receivers of the Wabash; Sidney King, freight traffic manager and Arthur Walton, assistant freight traffic manager of the Wabash; Guy A. Thompson, trustee of the Missouri Pacific; W. H. Haywood, freight traffic manager of the Illinois Central; Samuel Visse and the Visse Distributing Company; Gerstein & Co. and Louis A. Gerstein, its president; and William Chesky, operating as the Pioneer Fruit and Commission Company. The defendants are charged with giving or receiving illegal credits and the case is an outgrowth of an Interstate Commerce Commission investigation, conducted during the last year, of the practice indulged in by nearly all railroads for many years, of giving commission men credit when moving their produce. The indictments charge that produce which should have been held up by the railroads until transportation charges had been paid was delivered to the commission men. Of the three produce companies named and which operated from offices in the Produce Exchange Building in Chicago, two have gone out of business. The total amount of credit granted, according to the indictment, was $38,853, divided as follows: Illinois Central, $9,522; Wabash, $9,613; Southern Pacific, $3,504; Burlington, $6,253; Alton, $4,135; and Missouri Pacific, $5,796.

House Rejects Resolution for Study of Government Decentralization

Upholding the contention of its public buildings and grounds committee chairman —Representative Lanham, Democrat of Texas—that the matter should be left in the hands of that committee, the House on July 15 rejected House Resolution 257 whereby Chairman Sabath (Democrat of Illinois) of the rules committee sought to have a select committee of five members appointed by the Speaker to investigate the feasibility of transferring federal bureaus and agencies out of Washington. The debate which preceded defeat of the Sabath resolution brought forth expressions both for and against moving the Interstate Commerce Commission; while there was talk of getting rid of some agencies entirely —moving them "out the window," as Representative Bender, Republican of Ohio, put it.

First reference to the I. C. C. came when Representative Dewey, Republican of Illinois, said "there could be no better site" for that agency "than the city of Chicago, which is the hub of all the railroad systems and all the air systems of the country." But Representative Barden, Democrat of North Carolina, hoped there would be no disposition to move the commission farther than it now is from the South. "For the past 50 years," Mr. Barden complained, "we in the South have not been able to make that commission hear our cries against discriminatory freight rates, when they have been located here in the city of Washington."

Speaking in favor of the resolution, Representative Halleck, Republican of Indiana, a member of the committee on interstate and foreign commerce, asserted that Congress should have something to say about the decentralization matter. He added: "I think that Congress would want to see to it that the great established agencies of the government, like the Interstate Commerce Commission, for instance, that has been here for upward of 50 years, operating as an independent quasi-judicial agency of the government, an agency that in the time of its operation has gathered around itself a great retinue of other operations and other people who are dealing with that agency from day to day are not moved from Washington." Mr. Halleck was one of those who would investigate the possibility of abolishing some of the bureaus and agencies "that have been created in recent times."

Defeat of the resolution came after Chairman Lanham of the committee on public buildings and grounds and supporters of his point of view had called attention to the considerable work that committee has done on the decentralization matter in response to similar resolutions referred to it.

Equipment on Order

Class I railroads had 92,566 new freight cars on order on July 1, according to the Association of American Railroads. This was the largest number on order at any time since 1923; it was an increase of 27,519 compared with June 1, and more than five times as many as were on order on July 1, last year, at the beginning of the rearmament program in the United States.

Of the total number on order on July 1 this year, there were 59,813 box cars; 28,008 coal cars; 2,378 flat cars; 1,350 refrigerator cars; 100 stock cars, and 917 miscellaneous cars. Reports revealed that 22,276 of the total number of new freight cars on order, are being built in railroad shops while the others are being constructed by car building companies.

Class I roads in the first six months of 1941 installed 36,381 new freight cars in service, approximately the same number as installed in the same period last year. Among the new cars put in service were 18,603 box; 15,705 coal; 999 refrigerator; 908 flat, 50 stock and 116 miscellaneous cars.

More new locomotives were on order on July 1 this year than at any time in the past 15 years. The number was 559 of which 265 were steam and 294 were electric and Diesel-electric. New locomotives on order on June 1, totaled 517 of which 231 were steam and 286 were electric and Diesel-electric. On July 1, 1940, the railroads had 124 new locomotives on order, which included 97 steam and 27 electric and Diesel-electric.

New locomotives installed in service in the first six months of 1941 totaled 261 of which 62 were steam and 199 were electric and Diesel-electric. In the same period in 1940, there were 180 new locomotives installed in service, 45 being steam and 135 electric and Diesel.

Freight Car Loading

Loading of revenue freight for the week ended July 12 totaled 876,165 cars, the association of American Railroads announced on July 17. This was an increase of 135,672 cars, or 18.3 per cent, above the preceding week which included the July 4 holidays, an increase of 139,382 cars, or 18.9 per cent, over the corresponding week last year; and an increase of 206,277 cars, or 30.8 per cent, above the comparable 1939 week.

As reported in last week's issue, loadings of revenue freight for the week ending July 5 totaled 740,493 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, July 5

Districts	1941	1940	1939
Eastern	146,126	126,860	110,001
Allegheny	159,115	133,627	104,444
Pocahontas	40,178	43,890	38,921
Southern	102,146	82,802	80,928
Northwestern	126,990	107,013	81,882
Central Western	114,456	98,983	97,031
Southwestern	51,482	43,994	41,945
Total Western Districts	292,928	249,990	220,858
Total All Roads	740,493	637,169	555,152
Commodities			
Grain and grain products	50,921	47,628	53,485
Live stock	7,970	8,876	9,41F
Coal	93,968	103,555	85,897
Coke	12,638	10,439	5,600
Forest products	37,287	25,019	22,015
Ore	71,756	65,778	36,423
Merchandise l.c.l.	138,616	127,236	127,661
Miscellaneous	327,337	248,638	214,653
July 5	740,493	637,169	555,152
June 28	908,664	752,647	661,404
June 21	885,558	728,493	638,534
June 14	862,975	712,921	633,955
June 7	852,940	702,892	630,060
Cumulative Total, 27 Weeks	20,586,921	17,551,704	15,818,952

In Canada.—Carloadings for the week ended July 5 were totaled by the Dominion Bureau of Statistics at 56,938 (there having been a holiday on July 1). A year ago total loadings were 51,907.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
July 5, 1941	56,938	28,775
June 28, 1941	63,567	31,191
June 21, 1941	65,881	31,058
July 6, 1940	51,907	22,994
Cumulative Totals for Canada:		
July 5, 1941	1,554,678	789,051
July 6, 1940	1,351,840	662,083
July 8, 1939	1,158,098	558,330

Six Months Export Traffic

Cars of export freight, other than grain, unloaded at North Atlantic ports from Hampton Roads, Va., to the Canadian bor-

der, in the first six months of 1941, totaled 184,231, an increase of 22,027 cars or 13.6 per cent compared with the same period last year, according to the Association of American Railroads. At all Atlantic, Gulf and Pacific ports, unloadings totaled 283,537 cars, an increase of 6,934 or 2.5 per cent above the same period last year.

In June alone, 48,296 cars of export freight, other than grain, were unloaded at Atlantic, Gulf and Pacific ports compared with 49,557 cars in June, 1940. Cars of grain for export unloaded in June this year at those ports totaled 4,230 compared with 1,493 in the same month last year. "No congestion or delay to traffic exists at any of the Atlantic, Gulf or Pacific ports, due to the cooperation of steamship lines, port authorities, exporters and shippers," the A. A. R. said.

Tariffs Required for Red Cap Fees

(*Continued from page 128*)

that the terminal company considers red cap service in the same category as that provided in dining cars, restaurants and barber shops. Division 3 has no difficulty in recognizing that employees doing such things are performing personal services, but it goes on to say that it has been long recognized that passenger transportation by railroad, bus, water lines, and air lines includes the right of passengers to carry hand luggage. This fact, it continues, should establish the proposition that the carrying of a passenger's baggage to and from trains is much more closely related to the physical transportation in railway cars than are the other above-mentioned services which terminal companies provide.

Neither does Division 3 think that it is of controlling importance that the red cap service is optional and is used by a minor proportion of passengers. "There are various services in connection with transportation," it declares, "which are available to shippers at their option, and at a published charge, such as loading and unloading freight at certain points, the furnishing of ice for perishable traffic, and switching. We are of the view that the red cap service in question, insofar as it relates to the carrying of hand baggage within defendant's passenger station and to and from trains, is in the nature of a terminal service, and is so closely related to physical transportation in railway cars that the charge therefore should be filed with this commission under the provisions of section 6 of the Act, and that such charge is subject to our jurisdiction with respect to its lawfulness."

The argument of the complainant that the 10-cent charge has been historically included in the passenger fare is disposed of by Division 3 by pointing out that rates are based largely on mileage and fares between equidistant points are generally the same regardless of whether or not red cap service is available. "It seems clear," it concludes, "that the additional cost to the carrier incident to the carriage by a red cap of a passenger's baggage was not considered in making passenger rates."

The commission also finds that during the six-months period for which records are available with respect to the amount of baggage handled, February to July, 1940, the terminal company expended for the red cap service an average of 12.6 cents for each 10 cents that it received from the public.

To meet the charge that the 10-cent fee is not uniformly applied, the majority cites the fact that out of some 45,605 pieces carried during the period from February to July, 1940, there were only 43 on which no charge was collected. In the light of these facts, Division 3 further finds that the 10-cent charge is not unreasonable, unjustly discriminatory, or unduly prejudicial.

The opinion concludes by declaring that although this case will serve as a precedent for red cap charges at other stations, the order will relate only to those charges of the defendant at Cincinnati.

"Our jurisdiction over the assailed charge," writes dissenter-in-part Mahaffie, "can arise from an obligation imposed upon the carrier as a part of its statutory duty. Not all services performed by a common carrier engaged in interstate commerce in connection with passengers or property transported are subject to the provisions of the Act. Many services are performed by a carrier as incidents to transportation, and in its capacity as a bailee for hire. Reasonable construction of the term 'transportation' as defined in the Act limits it to such services as a carrier is required by law to provide upon reasonable request therefor. The fact that a service is performed or not performed by a carrier is not material in determining whether or not it falls within the term 'transportation.'"

Commissioner Mahaffie then reaches the conclusion, as pointed out above, that the red cap service is a personal one which cannot be required of the carrier and, therefore, is not subject to the commission's jurisdiction.

Pullman Orders Streamlined Cars for Famous Trains

Pullman streamlined, light weight equipment, totaling 170 cars, will be placed on some of America's most famous trains within the next six months, the Pullman Company having placed an order with the Pullman-Standard Car Manufacturing Company for the construction of the cars at its Pullman Car Works, Chicago. Practically all of the cars will be of high tensile, alloy steel, of the welded girder type and air-conditioned. Assignments of the new cars are as follows:

"Overland Limited," Southern Pacific-Union Pacific-Chicago & North Western—78 cars, 60 containing 4 double bedrooms, 6 roomettes and 6 sections; and 18 with 2 drawingrooms, 4 compartments and 4 double bedrooms.

"Panama Limited," Illinois Central—20 cars, 12 with 4 double bedrooms, 6 roomettes, and 6 sections; 2 with 2 drawingrooms, 4 compartments, and 4 double bedrooms; 2 with 18 roomettes; 2 with 3 double bedrooms, 1 compartment, 1 drawingroom, and a buffet-lounge; and 2 with 2 double bedrooms, 1 drawingroom, 2 compartments, and a lounge-observation.

"Golden State Limited," Southern Pacific-Chicago, Rock Island & Pacific—24 cars, 11 with 2 drawingrooms, 4 compartments, and 4 double bedrooms; and 13 with 4 double bedrooms, 6 roomettes, and 6 sections.

"Chief" and *"Super-Chief,"* Atchison, Topeka & Santa Fe—12 cars, 4 with 2 drawingrooms, 4 compartments, and 4 double bedrooms; and 8 with 4 double bedrooms, 6 roomettes, and 6 sections. For general service on Santa Fe trains, there will also be 26 cars containing 4 double bedrooms, 6 roomettes, and 6 sections; and 6 with rooms and an observation-lounge.

In addition, four cars of the new equipment will be assigned to the Missouri Pacific, each containing 4 double bedrooms, 6 roomettes and 6 sections.

Senate Approves Pipe Line Bill

The Senate on July 15 passed without a record vote H. R. 4816, the House-approved bill introduced by Representative Cole, Democrat of Maryland, which would give broad powers both to government agencies and to private companies to condemn private land for the construction of oil and gasoline pipe lines.

As the bill passed the Senate it included an amendment added in the Senate interstate commerce committee, which would provide that all pipe lines which are built during the emergency would become subject to the Interstate Commerce Act and the Elkins Act after June 30, 1943. This amendment was not in the measure as it passed the House, and debate on the floor of the Senate revealed that Petroleum Coordinator for National Defense Harold L. Ickes was opposed to the amendment because of the fact that he felt the oil companies would refuse to invest any private capital in pipe lines if, after the emergency, they were to become subject to anti-trust laws and the rebate provisions of the Elkins Act.

It was also pointed out on the floor of the Senate that as the measure passed the House it provided that the new lines built during the emergency would never become subject to the supervision of the Interstate Commerce Commission. At the request of the commission, the Senate committee included the above mentioned amendment, despite the protests of Mr. Ickes.

Senator Wheeler, chairman of the interstate commerce committee, declared during the debate that Secretary Ickes had attempted to get the House bill referred to another committee than his for fear that Mr. Wheeler would try to hold up its consideration. After pointing out that the only reason he did not oppose the measure was that Mr. Ickes had said it was a national defense measure and that he did not want to be accused of thwarting national defense, Senator Wheeler went on to say that ordinarily he would be opposed to such a bill because there was no question in his mind that "it will give a few oil companies a tremendous monopoly." "In addition to that," he continued "it will upset and probably put out of business many coal mines throughout the country, causing unemployment among coal miners, and I believe it will seriously affect employment on the railroads when peace comes."

One interesting bit of information came out of the lengthy debate when Senator

Gurney, Republican of South Dakota, told his colleagues that the first two proposed pipe lines will use sufficient steel to build 22 battleships. It was Mr. Gurney's idea that other ways could be found to conserve oil rather than building new pipe lines.

Meanwhile I. C. C. Chairman Eastman told Mr. Ickes at a conference last week that the commission can and will consider the matter of reduced rates on oil, but that the best method would be for the oil companies and the railroads to work out some type of reduced rate, such as utilizing train load rates. Mr. Eastman later said that he understood that such reduced rates had been worked out in some instances between the oil companies and the carriers.

May Locomotive Shipments

May shipments of railroad locomotives totaled 84 as compared with 74 in April and 43 in May, 1940, according to reports received from builders by the Department of Commerce's Bureau of the Census. Unfilled orders at the end of May totaled 726 locomotives, as compared with 622 on April 30, and 152 as of May 31, last year.

Shipments for this year's first five months totaled 348 locomotives, including 50 steam, two electrics, 242 Diesel-electrics, and 17 of other types for domestic service, and 28 steam, eight electrics, and one Diesel-electric for export. In the first five months of 1940, a total of 204 locomotives was shipped.

Data supplied by the Car Service Division on locomotive building in railroad shops show that seven locomotives, including five steam and two electrics, were thus produced during this year's first five months. In the comparable period last year railroad shops turned out 34 locomotives, including 20 steam and 14 electrics. Locomotives on order in railroad shops as of June 1 totaled 35, including 30 steam and five electrics.

Budd Says Car Building Lags

(*Continued from page 127*)

patrons, work with the carriers in various ways, principal among which are prompt loading of cars; prompt unloading and release at destination; loading cars to capacity; avoidance of damage to car interiors and other misuses; as even a seasonal movement as possible, as by ordering coal in advance of the autumn peak; and working at the loading and unloading of cars seven days a week instead of five as is common practice, or even four days in some instances.

"Of course, the carriers have equal responsibilities which may be summarized as follows: Avoidance of all possible road delays; reduction of time lost in yards, terminals, and interchange; better supervision of car handling, which perhaps would call for better and larger organization in some cases; movement of company material during off-peak periods and prompt unloading thereof; strict observance of car service rules; keeping the cars moving.

"Increased speed while on the road is not so important as maintaining a continuous movement. This is apparent when we remember that the average freight car is actually moving in trains only about 10 per cent of the time, or a little over 2½ hours out of the 24. Obviously, there is opportunity to save many more car days by avoiding some of the lost time during the other 21½ hours than by running the already high-speed trains still faster for the 2½ hours they are moving the cars. Nothing that I know of promises so much in the way of increasing total railway capacity as an earnest effort to eliminate all possible waste of time in placing loaded cars, in unloading them, in loading empty cars and getting them on the way. This effort, together with a determination to load cars heavier might even result in increasing and carrying capacity of the existing railway cars of the country by as much as 25 per cent.

"Sympathetic consideration has been given to the appeals for priorities which will permit suppliers to fill railway orders, but the necessary action to bring deliveries is exceedingly slow. Transportation must be recognized as equally vital with any other part of the defense effort, and the time has come when such recognition must be expressed in necessary materials. The matter is not within my control or that of the railroads. It is not a question of their failure to place orders, nor their ability to pay for the goods."

Retirement Board Favors Extension of Military Service Credits

The Railroad Retirement Board has submitted to Chairman Wheeler of the Senate committee on interstate commerce and Chairman Lea of the House committee on interstate and foreign commerce reports favoring enactment of S. 1224 and H. R. 3984, identical bills introduced respectively by Mr. Wheeler and Representative Crosser, Democrat of Ohio, to extend the crediting of military service under the Railroad Retirement Act. The Board's report to Mr. Lea dealt also with H. R. 2845, a similar bill introduced by Representative Van Zandt, Republican of Pennsylvania; but the Crosser bill was favored because it goes beyond the military-service matter to make three other Retirement-Act amendments desired by the Board.

One of the latter amendments would direct the Board to presume the mental competence of an annuitant or pensioner until the contrary is conclusively proved by appropriate authority; another would simplify the payment of death benefits by specifying an order of preference where a beneficiary is not named; while the third is designed to clarify the section dealing with the conditions under which service to local lodges or divisions, or general committees, of railway-labor-organization employees may be "employee" service under the act.

With respect to the proposed extension of credits for military service, the Board pointed out that the Second Revenue Act of 1940 provided for the crediting of certain periods of military service rendered prior to January 1, 1937. It sees no reason why a similar policy should not be adopted with respect to military service rendered after that date. The bills would make such an extension, including in the military-service period any period subsequent to September 7, 1939, with respect to which a state of national emergency shall have been declared to exist.

The Wheeler-Crosser bill provides that for each month of military service the individual shall, for death benefit purposes, be credited with compensation of $150 a month. The Board recommends that this be increased to $160 as more representative of the average monthly wages of covered employees. This provision would affect only computation of death benefits; the calculation of annuities would be affected under the proposed bill, as under the existing military service legislation, only by the lengthening of the service period. The Board has estimated that the number of persons entitled to the credits will range from 20,000 to 25,000 annually so long as existing conscription is in effect. The cost to the government of paying the Carriers-Taxing-Act taxes involved would run from $2,300,000 to $2,880,000 a year in addition to the cost of crediting military service rendered prior to January 1, 1937, which is estimated at $500,000 annually.

OPACS Advice on Efficient Use of Transport Facilities

Sixteen suggestions by which American industry can make the most efficient use of the nation's transportation facilities" have been issued by G. Lloyd Wilson, director of transportation, Office of Price Administration and Civilian Supply. (Dr. Wilson being the well-known teacher and writer on traffic matters, on leave from the University of Pennsylvania).

"Transportation is vital to national defense and civilian welfare," Dr. Wilson said. "Efficient use of ships, railroad and express cars, trucks, airplanes and pipe lines is imperative. Intelligent cooperation on the part of shippers, carriers and government will result in the movement of more freight per vehicle mile and will act to prevent increases in the cost of transportation." The 16 suggestions follow:

1. Give carriers adequate advance notice when transportation facilities are needed and exactly where they are needed.
2. Order precisely the sizes and kinds of facilities required.
3. Place vehicles promptly when ordered.
4. Have goods properly packed, marked, protected, and ready for shipment exactly when transport facilities are ordered.
5. Ship goods in units adapted to utilize maximum carrying capacity of transportation vehicles, or as much of it as possible.
6. Load vehicles to maximum loading capacity consistent with capacity of vehicles and safety.
7. Arrange for prompt loading and unloading of transportation vehicles—vessels, cars, and trucks—upon arrival and placement.
8. Arrange for prompt release of equipment as soon as it is unloaded.
9. Remove vehicles from delivery points promptly after release.
10. Clean debris and rubbish from vehicles after use.
11. Operate vehicle-loading and unloading facilities on an every-day-in-the-week basis, whenever possible.
12. Select, whenever possible, railroad cars for loading in the direction of the home or owning railroad, and load vehicles of all sorts in both directions, in order to avoid empty vehicle movement.
13. Give preferred attention to freight cars held beyond free time so as to avoid demurrage charges and release unduly delayed equipment.
14. Have docks and piers ready to receive vessels promptly and commence discharge immediately upon arrival.
15. Make adequate advance arrangements for railroad cars, trucks, and other facilities needed to receive transshipped cargo so as to have vehicles ready when cargo is available.
16. Route shipments so as to avoid unnecessary circuity of routes and superfluous interchanges between carriers.

Equipment and Supplies

LOCOMOTIVES

National Rys. of Mexico to Buy 40 Steam Locomotives

The National Railways of Mexico are inquiring for a total of 40 steam locomotives comprising the following:

20	4-8-4 type
6	2-6-6-2 type
6	4-8-0 type
8	2-8-0 type

The inquiry for the 20 4-8-4s and six 2-6-6-2s was previously reported in the *Railway Age* of July 12.

THE BOSTON & MAINE has ordered two 44-ton Diesel-electric switching locomotives from the General Electric Company.

THE UNITED STATES WAR DEPARTMENT has ordered nine 45-ton Diesel-electric switching locomotives from the Davenport Besler Corporation.

THE WHEELING & LAKE ERIE has placed an order for 10 steam locomotives of the 2-8-4 type with the American Locomotive Company.

THE WESTERN MARYLAND has ordered one 660-hp. Diesel-electric switching locomotive from the Baldwin Locomotive Works.

THE OHIO & MORENCI has ordered one 35-ton Diesel-electric switching locomotive from the Davenport Besler Corporation.

THE SOUTHERN has ordered two Diesel-electric locomotives, including one of 1,000-hp. and one of 660-hp., from the Baldwin Locomotive Works.

THE UPPER MERION & PLYMOUTH has on order one 660-hp. Diesel-electric switching locomotive with the Baldwin Locomotive Works.

THE ELGIN, JOLIET & EASTERN has ordered two 1,000-hp. Diesel-electric locomotives from the Baldwin Locomotive Works.

THE CLINCHFIELD has ordered eight 4-6-6-4 type steam locomotives from the American Locomotive Company. The inquiry for these locomotives was reported in the *Railway Age* of June 7.

THE ST.-LOUIS-SAN FRANCISCO has placed an order for 15 steam locomotives of the 4-8-4 type with the Baldwin Locomotive Works. The receipt of court authority for the purchase of this equipment was reported in the *Railway Age* of July 12.

FREIGHT CARS

Katy Rebuilding 2,000 Freight Cars

An elaborate car rehabilitation program calling for the rebuilding of more than 2,000 freight cars is being undertaken by the Missouri-Kansas-Texas at its Denison shops. Included are 1,500 box, 500 gondola and 30 caboose cars.

A force of 100 men are already at work on the construction of the first 10 cabooses, 2 of which are already in service. The cabooses are being painted a bright yellow and stenciled with the black identification "M-K-T," in large letters. "The Katy," in script and "Serves the Southwest," in smaller letters. Aside from being more attractive, the color serves a safety purpose since the cars are more conspicuous, both day and night.

Following completion of the cabooses, Denison shop forces will sand blast and paint 200 hopper cars. This work will be done pending the arrival of materials and supplies needed for the car building program.

Of the box cars to be rebuilt, 1,000 are of the 76000 series, which were built by the American Car & Foundry Company at St. Charles, Mo., in 1923. Many of the remaining 500 box cars are of the 96000 series, built at Denison in 1926. The 76000 series cars are 80,000-lb. capacity units with steel frames, posts, braces and roofs and with longitudinal wood siding, mounted inside the steel braces. The 96000 series are of the same construction but are of 100,000-lb. capacity.

THE UNITED FRUIT COMPANY has ordered 100 banana cars from the Pullman-Standard Car Manufacturing Company.

THE ST. LOUIS SOUTHWESTERN is inquiring for 150 40-ft. 6-in. box cars of 50 tons' capacity and 100 50-ft. 6-in. box cars of 50 tons' capacity.

THE WESTERN MARYLAND has ordered four depressed center flat cars of 275,000-lbs. capacity from the company's own shops.

THE CENTRAL OF NEW JERSEY has placed an order for 1,000 gondola cars of 70 tons' capacity with the Bethlehem Steel Company. The inquiry for this equipment was reported in the *Railway Age* of June 21.

THE UNITED STATES NAVY has ordered 40 flat cars from the Haffner-Thrall Car Company as follows: Two of 70 tons for Portsmouth yard; six of 50 tons, schedule 5896; four of 50 tons, schedule 1716; ten of 50 tons and two of 100 tons, schedule 3727; and 26 of 30 tons, schedule 7378.

THE UNITED STATES ARMY, contracting officer, engineering department, has ordered 50 10,000 gal. capacity tank cars from the General American Transportation Corporation. Inquiry for this equipment was reported in the *Railway Age* of June 14.

THE NEW YORK, NEW HAVEN & HARTFORD has ordered 50 steel cabooses from the Pullman Standard Car Manufacturing Co. The company was reported to be contemplating the purchase of 25 cabooses in the *Railway Age* of February 8.

THE UNITED STATES ARMY, commanding officer, Erie Proving Ground, La Carne, Ohio, is asking for bids on 3 flat cars and 2 self-clearing steel hopper cars —invitation no. 6.

THE WABASH will build 100 52-ft. 6-in. drop-end gondola cars of 70 tons' capacity in the company's own shops. The inquiry for this equipment was reported in the *Railway Age* of June 21.

THE MISSOURI PACIFIC and affiliated lines are reported to be contemplating the purchase of a total of 3,050 freight cars, divided as follows:

MISSOURI PACIFIC	
1,000 box	50 flat
500 hopper	50 coal
GULF COAST LINES	
250 box	450 coal
50 flat	
INTERNATIONAL-GREAT NORTHERN	
100 box	300 coal
50 flat	
MISSOURI-ILLINOIS	
100 box	150 coal

PASSENGER CARS

THE NATIONAL RAILWAYS OF MEXICO are reported to be contemplating the purchase of 80 passenger coaches and 25 baggage-mail cars.

THE PULLMAN COMPANY has ordered 170 sleeping cars from the Pullman-Standard Car Manufacturing Company. The assignment of these cars to some of America's most famous trains is reported elsewhere in this issue.

THE CHICAGO, AURORA & ELGIN has received authority from the district court at Chicago to purchase 10 interurban passenger cars at a cost of $400,000. The railroad has entered into a lease-purchase arrangement with Lester S. Cain, representing the La Salle National Bank of Chicago, who in turn will have the cars built by the St. Louis Car Company. Payments will be at the rate of $6,500 a month for the year in which the cars are being built and $8,000 a month after delivery on August 1, 1942.

SIGNALING

THE LOUISVILLE & NASHVILLE has placed an order with the Union Switch & Signal Co. covering materials for the installation of a centralized traffic control system on 93 miles of single track line between Brentwood, Tenn., and North Athens, Ala. The 16-step multiple line circuit system will be used, with the control machine located at Athens. A unique feature of the installation will be the combining of the C. T. C. code control circuit and telephone message facilities on one line circuit. Coded track circuits will be used throughout the territory except at short passing sidings and at the ends of passing sidings. In addition to the control machine and associated code apparatus, the project involves 118 searchlight signals with plug connectors, 22 color light dwarf signals, 22 Style-M-22B electric switch machines, 52 sheet-steel instrument cases and instrument houses, 31 switch circuit controllers, with junction boxes, relays, etc. The railroad company will handle the field installation with its regular signal forces.

Continued on next left-hand page

Sees Million-Car Week at Fall Peak
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Reprinted from Railway Age
July 12th, 1941

Million-car weeks are going to call for the maximum in speed and hauling capacity. The only power capable of meeting this expected increase is new MODERN STEAM LOCOMOTIVES. Lima is prepared to build you locomotives that are high in hauling capacity and speed yet low in operating cost. Order new Lima-built super-power NOW.

LIMA LOCOMOTIVE WORKS, LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

Supply Trade

Andrew Christianson, consulting engineer of **Pullman-Standard Car Manufacturing Company,** Chicago, has been granted a six-months leave of absence. The duties of his office are being assumed by **E. W. Test,** assistant to the president in charge of engineering and research.

F. A. Stevenson has been elected senior vice-president of the **American Car & Foundry Co.** He will continue in charge of operations as heretofore. **W. L. Stancliffe,** formerly manager of miscellaneous sales for this company, has been elected vice-president in charge of miscellaneous and munitions sales.

John C. Kjerner, who has been connected with the New York office of the Trane Company for the past three and one-half years, will head the newly formed **Fedders-New York Company,** with offices at 415 Lexington avenue, New York. **Eugene J. Moran,** formerly of Moran & Brown, will be his associate.

Paul G. Cheatham, Jr., has been appointed Mexican representative of **Iron & Steel Products, Inc.,** Chicago, with headquarters at Mexico City, D. F., to succeed **P. C. Morales,** who has resumed the position of general superintendent of motive power and machinery of the National Railways of Mexico, from which he resigned in 1935.

George Terborgh has been elected secretary of the **Machinery & Allied Products Institute,** national federation of machinery manufacturers, to succeed **Alexander Konkle,** who has resigned to re-enter private business. Mr. Terborgh had been senior economist of the Board of Governors of the Federal Reserve Bank at Washington, D. C.

C. W. Pearsall, manager of distributor sales of the **Ahlberg Bearing Company,** Chicago, has been promoted to general sales manager. He entered the employ of the Ahlberg organization in 1919 and since has served as a salesman in Chicago and Philadelphia, branch manager at Philadelphia and later at Chicago and then manager of distributor sales.

Herbert J. Watt has been appointed manager of sales, western area, for the **Carnegie-Illinois Steel Corp.,** with headquarters in Chicago. Mr. Watt will coordinate sales activities of the company's offices at Chicago; Denver, Col.; Detroit, Mich.; Indianapolis, Ind.; Milwaukee, Wis.; St. Louis, Mo.; and St. Paul, Minn.

Horace M. Wigney has been appointed assistant vice-president of the equipment specialties division of the **Union Asbestos and Rubber Company,** Chicago. For the last year Mr. Wigney has engaged in special work on the Pacific Coast for the City Ice & Fuel Company of Cleveland, Ohio. For twelve years, prior to 1940 he served as vice-president and general manager of Safety Refrigeration, Inc., a subsidiary of the Safety Car Heating and Lighting Company, New York. For a number of years he also was general superintendent of the Merchants Despatch Transportation Corporation at Rochester, N. Y., and superintendent of transportation of the Pacific Fruit Express Company, from 1907 to 1915.

The Philco Corporation, Storage Battery division, will begin operations this month in a newly acquired plant at Trenton, N. J., having an output totaling about 10,000,000 ampere hours per month. The Philco storage battery plant in Trenton is devoted entirely to the manufacture of industrial batteries and it is estimated that the new plant will increase the company's productive capacity three-fold.

Bennett C. Browning, special representative of **Oakite Products, Inc.,** New York, with headquarters at Chicago, has been appointed manager of the railway service division, with the same headquarters. **Hobart F. Cook** and **Frank C. Lipcomb,** who have represented the industrial division in the Omaha and in the Tennessee-Alabama territories, have been transferred to the enlarged railway service division at Chicago.

OBITUARY

Frederick E. Place, vice-president of the Buda Company, Harvey, Ill., died in Chicago on July 13.

Frederick A. Gale, president of the Gale Service and Construction Company, Chicago, died in that city on July 10. He would have been 80 years old on July 17.

Robert J. Calder, president of the International Creosoting & Construction Company, Galveston, Tex., who died on June 28 at Boerne, Tex., as reported in the *Railway Age* of July 5, was born at Richmond, Tex., on June 22, 1878. He was educated at the University of Texas and began his business career as a clerk on the wharves at Galveston. In 1901 he entered the employ of the International Creosoting & Construction Company as a clerk in the Beaumont offices and after

Robert J. Calder

holding various positions with the company became president in January, 1923. He took an active interest in the work of the American Wood Preservers' Association, especially in its early days, and served as second vice-president of the organization in 1911.

Construction

CANADIAN PACIFIC.—A contract has been awarded Couture and Toupin, Winnipeg, Man., for the construction of a scrap reclaiming building at Weston shops. The work involves the construction of a brick and concrete building 50 ft. x 96 ft. x 15½ ft., at a cost of $18,000.

CHICAGO & NORTH WESTERN.—The Illinois Commerce Commission has ordered this railroad and the city of Chicago to build a pedestrian subway under the railroad's tracks at Ogallah avenue near Olympia Park. The commission has also directed the railroad and the city to rebuild and improve the present pedestrian underpass at Napolean avenue near Norwood Park.

CHICAGO, ROCK ISLAND & PACIFIC.—This company and Joliet, Ill., will share the cost of a proposed $85,000 reinforced concrete subway to carry Bluff street in Joliet under the tracks of the railroad.

DELAWARE & HUDSON.—The New York Public Service Commission has approved a plan calling for the elimination of 32 grade crossings of this company in Saratoga Springs and the town of Wilton at an estimated cost of $2,896,000, the project to get under way when money for the work is made available by the legislature. By the plan, the railroad would diverge laterally from the existing main line at a point located about 3,700 ft. north of Dry Bridge or about 9,000 ft. south of Geysers crossing. After leaving its present location, the railroad would bear almost due north for about two miles to a point about 4,500 ft. northwest of the existing line and thereupon northeasterly for the next four miles. The line would then extend about due east for three miles to its junction with the present line at a point about 3,000 ft. north of Cookinghams crossing. The crossing north of Cookinghams would remain at grade. The total length of the project on the main line would, measured along the new alinement, be 10.15 miles. Measured along the existing alinement, the distance of double track railroad retired from main line service would be 9.51 miles. A connection about 1,000 ft. long would be provided to the Adirondack branch and the section of this branch located between Waterbury street and the new line would be removed. The southerly portion of the branch, about 3,500 ft. long, would remain for service to two industries. At a point about 4,000 ft. north of Geysers crossing, a wye would be installed to furnish access to a single track freight connection about one mile long which would be constructed between the present and the proposed main line for the purpose of handling freight movements to the present freight house yard, which would remain in service. The present passenger station would be abandoned and a new station erected about midway between the crossings of Church and Washington streets on the new line.

The new plan of alinement approved by the Commission would cross 13 existing streets and highways. In order that no highway crossing would remain at grade,

Continued on next left-hand page

90 to 95% Mechanical Efficiency

WITH THE

The unusually high mechanical efficiency of a locomotive equipped with the Franklin System of Steam Distribution is one of the reasons why it can deliver 35 to 45% more power at 70 to 80 miles per hour.

*From 90 to 95% of the horse power developed by the cylinders in the operating range is delivered at the rails. Locomotives equipped with the Franklin System of Steam Distribution have the highest mechanical efficiency of any prime movers in railroad service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

it is proposed to install one four-lane undercrossing, three two-lane undercrossings and three four-lane overcrossings. Four crossings would be closed and two of these would be connected to grade separation structures by means of marginal highways. The only new grade crossing that would be created by this plan is at the intersection of West avenue, a county highway, and the proposed connection to the existing freight yard. The plan would retain one existing track for the service of all industrial sidings located on the present main line in Saratoga Springs This track would also provide access to the company engine house, freight house, freight yard and other railroad facilities now located at the south end of the city and which would be retained in their present location.

ILLINOIS.—The Illinois Division of Highways has received bids for the construction of a reinforced concrete substructure and plate girder superstructure for a subway to carry High street under the tracks of the Illinois Terminal and the Alton in Carlinville, Ill.; for a reinforced concrete substructure and plate girder superstructure for an overhead crossing of the Pennsylvania east of Stubblefield in Bond county; and for the construction of an overhead crossing of the tracks of the Chicago, Burlington & Quincy at the relocation of State Aid Route No. 5 in Ogle County.

LONG ISLAND.—This company has awarded contracts to Tully & Di Napoli, Inc., of Long Island City, N. Y., for construction work in connection with the Atlantic Avenue improvement, Brooklyn, N. Y., at an estimated cost of $2,500,000 and a grade crossing elimination project in Rosedale, N. Y., at an estimated cost of $109,000.

THE UNITED STATES ARMY, Engineers Office, Sacramento, Cal., has awarded a contract to the A. D. Schader Company of San Francisco, Cal., for the construction of a railroad spur and appurtenant facilities at McClellan Field. The invitation for bids on this project was reported in the *Railway Age* of June 28.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Merger.*—Division 4 of the Interstate Commerce Commission has authorized this company to merge the properties of four of its wholly-owned subsidiaries, the Oil Fields & Santa Fe, the Kansas City, Mexico & Orient, the Osage County & Santa Fe, and the Buffalo Northwestern, into its own company for ownership, management and operation. Details of the plan, which contemplates the dissolution of the corporate structures of the four companies, were given in the *Railway Age* of June 28, page 1204.

ATLANTIC & EAST CAROLINA.—*Note.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to issue at par a six months promissory note for $25,000, the proceeds to be used to purchase cross ties.

ATLANTIC COAST LINE.—*Status of Atlantic Coast Line Company.*—The Securities & Exchange Commission has ruled that the Atlantic Coast Line Company is not a "carrier" within the meaning of the Interstate Commerce Act and is therefore not exempt from registration under the Investment Company Act which the S. E. C. administers.

The Atlantic Coast Line Company, according to the commission's opinion, was created by an act of the Connecticut legislature in 1889 to finance the acquisition of railroads in the southeastern section of the United States and their consolidation into what is now the Atlantic Coast Line.

"By the year 1914," continues the S. E. C.'s opinion, "the applicant company had ceased the activities for which it was originally organized, and since that time its activities appear to have been confined largely to those ordinarily exercised by a holding company." The opinion went on to point out that the company owns all of the capital stock of the Charleston & Western Carolina except directors' qualifying shares, more than 50 per cent of the South Carolina Pacific, which leases its railroad to the Atlantic Coast Line; and that as of December 31, 1940, it owned approximately 27 per cent of the outstanding capital stock of the Atlantic Coast Line. Other holdings of the company, the opinion continued, consist of obligations of these and other railroad companies, and comparatively minor investments in three companies which are not railroads.

The Atlantic Coast Line Company had asked the S. E. C. to find that it was subject to the Interstate Commerce Act and to specifically declare that it was exempt from the provisions of the Investment Company Act. As the first question has now been disposed of, the S. E. C. will now have to pass upon the second request as to whether or not the company is an investment company within the meaning of the act.

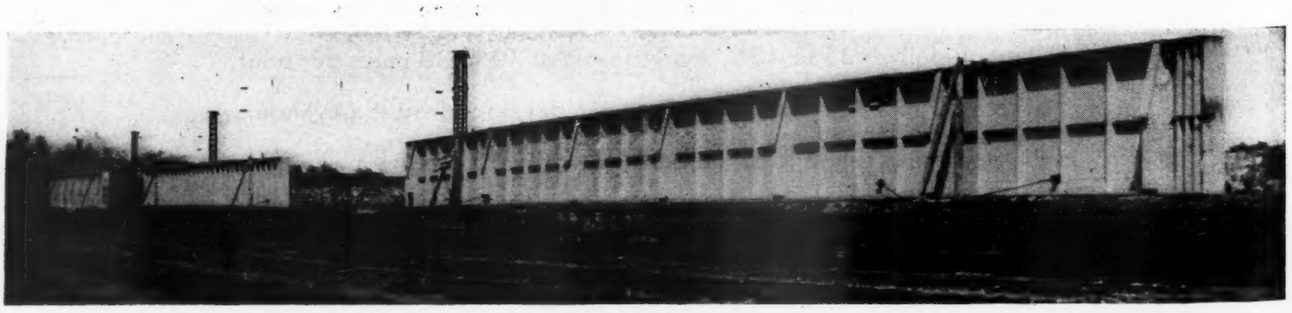
BALTIMORE & OHIO.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has modified its order of November 19, 1940, in Finance Docket No. 13079, so as to permit this company to substitute 274 70-ton, 53 ft. 1½ in. all-steel gondola cars in place of 250 70-ton, 66 ft. 1½ in. all-steel gondola cars as originally contemplated.

BESSEMER & LAKE ERIE.—*Abandonment by the Pittsburg, Bessemer & Lake Erie.*—The Pittsburg, Bessemer & Lake Erie and the Bessemer & Lake Erie, respectively, have asked authority from the Interstate Commerce Commission to abandon the former's Allegheny branch and the operation thereof, extending from a connection with the B. & L. E.'s Hilliards branch to a point near Argentine, Pa., two miles.

BOSTON & MAINE.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a part of its Conway branch extending from Jewett Station, Me., to Somersworth, 5.5 miles.

CENTRAL OF GEORGIA.—*Equipment Trust Certificates.*—The trustees of this company have been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $1,116,000 of equipment trust certificates issued July 1, 1937, the

* * *



Three Girders on Sixteen Cars

Three giant steel girders requiring a special train of 16 flat cars were recently shipped by rail from the Bethlehem Steel Company at Pottstown, Pa., to Baychester, N. Y., for use in connection with a new highway bridge over the six-track Hell Gate Bridge route of the New York, New Haven & Hartford at that point. The latter received the shipment at Maybrook, and gave it special movement to avoid interference with regular train movements on adjacent tracks.

The heaviest of the three girders alone required six flat cars. It was 156 ft., 6 in., long—about half the length of a football gridiron—2 ft., 8 in., wide and 15 ft., 5 in., high from the top of the rail, and weighed 308,000 lb. Its weight was distributed on two pivoted bolsters secured on the second and fifth cars of the six-car unit. These bolsters were spaced 110 ft. apart, leaving the third and fourth cars to act as "spacers." The girders were unloaded and fitted into place by two railroad cranes.

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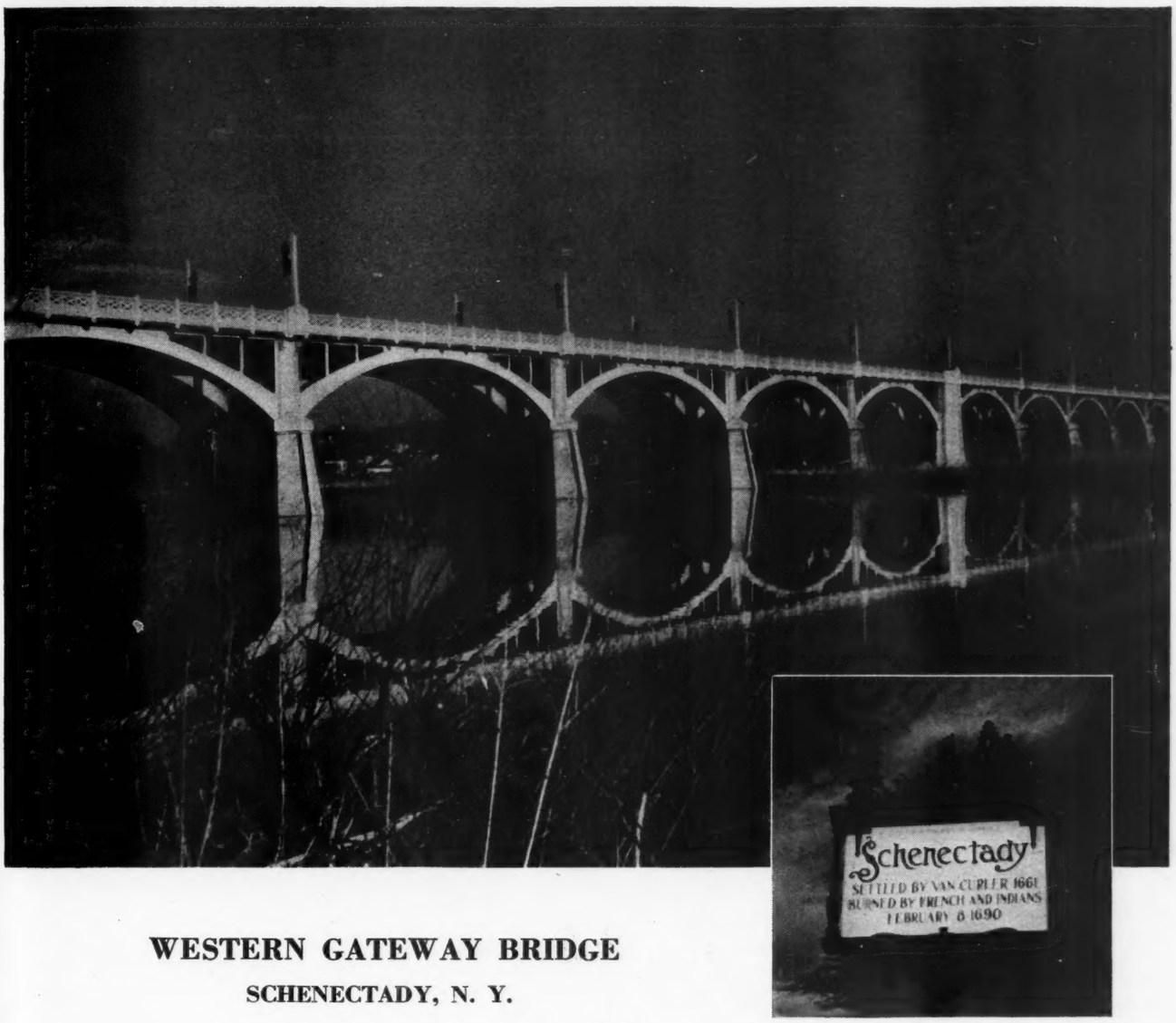
NO. 145 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



WESTERN GATEWAY BRIDGE

SCHENECTADY, N. Y.

Since pioneer days Schenectady has been known as the "Western Gateway" and to perpetuate the name the new highway bridge, over the Mohawk river, which connects Schenectady and Scotia, was so designated. Of concrete and steel arch construction, the bridge is nearly a mile long and in the center it makes practically a right angle turn as the two towns are not directly across from each other. At the end of the bridge stands an ornamental sign post topped by an iron historical scene.

The Security Sectional Arch, too, is a mile post in pioneering. Prior to its introduction to the railroads 32 years ago each railroad had its own design of arch construction. The Security Sectional Arch by establishing a standard eliminated the difficulties of securing replacements for arch brick. This basic design has been improved upon through the intervening years by American Arch Company engineers and is today the standard of American Railroads.

There's More to SECURITY ARCHES *Than Just Brick*

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

payment of which had previously been guaranteed by the receiver of the road. The application was made necessary by virtue of the fact that the road had previously been in receivership, but recently has been transferred to the section 77 type of reorganization. The original issue was for $1,400,000, but $284,000 has been paid to date.

CHICAGO, BURLINGTON & QUINCY.—*Equipment Trust Certificates.*—This road awarded, on July 15, an issue of $9,387,000 of equipment trust certificates to Salomon Brothers & Hutzler, Dick & Merle-Smith and Stroud & Co., on a bid of 100.679 for 1½s, representing an interest cost to the carrier of 1.32. The certificates, due August 1, 1942 to 1948, inclusive, were re-offered to the public at prices to yield 0.30 to 1.65 per cent, according to maturity.

ERIE.—*Acquisition by the Moosic Mountain & Carbondale.*—Division 4 of the Interstate Commerce Commission has authorized the Moosic Mountain & Carbondale to purchase and the Erie to operate a portion of the line of the Wilkes-Barre & Eastern extending from Suscon, Pa., to Plains, eight miles.

EVANSVILLE & OHIO VALLEY.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon that portion of its line extending from a connection with the Illinois Central in Evansville, Ind., to Posey Station, 15.7 miles, and the eastern end of its line extending from a connection with the Southern at Rockport, Ind., to Grandview, five miles.

GRAND TRUNK WESTERN.—*Equipment Trust Certificates and R. F. C. Financing.*—Division 4 of the Interstate Commerce Commission has approved a plan whereby this company would issue and sell to the Reconstruction Finance Corporation $5,692,000 of 2½ per cent equipment trust certificates, maturing in 20 semiannual installments of $285,000 on June 1 and December 1, from December 1, 1941, to June 1, 1947, inclusive, and of $284,000 on June 1 and December 1 from December 1, 1947, to June 1, 1951, inclusive.

DENVER & RIO GRANDE WESTERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission to deny a petition of the Brotherhoods' Rail Service Organization seeking to reopen the commission's decision in Finance Docket No. 12829, wherein it was authorized to abandon its narrow-gage line extending from Antonito, Colo., to Santa Fe, N. Mex., 125 miles. As noted in last week's issue, the effective date of the order has been further extended to August 1.

Commenting on the Brotherhoods' argument that the line has military value and should not be abandoned in these times of national emergency, the carrier told the commission that this phase of the question had been brought to the attention of Ralph Budd, transportation member of the National Defense Commission, who replied "that he felt the conclusions reached by the Interstate Commerce Commission could be safely accepted as conforming with the national policy in the present emergency."

The brief went on to say that because of the limited car capacity of narrow-gage equipment, limited train tonnage, operation difficulties because of light rail and heavy curvatures and grades, and the necessity of transferring freight at each end, it was felt that this line did not weigh heavily as a national defense factor.

The attention of the commission was also called to the fact that A. E. Perlman, the road's chief engineer, had testified at the hearing on the abandonment that of $500,000 which had to be spent on the line in the next five years to make the road safe for continued operation, at least $140,000 must be spent within the immediate future to insure safe operation. Accidents which have occurred since the hearing show that this is true, it was stated. The petition concluded by telling the commission that if it did not permit the cessation of operation very shortly, arrangements would have to be made for new rail and ties.

ILLINOIS CENTRAL.—*Yazoo & Mississippi Valley Abandonment and Trackage Rights.*—The Yazoo & Mississippi Valley has asked the Interstate Commerce Commission for authority to abandon operation over 4.2 miles of line of the Gulf, Mobile & Ohio in Meridian, Miss. At the same time the Y. & M. V. asked the commission for authority to operate over two other alternate lines of the G. M. & O. in the same city with a distance of 1.3 miles on each line.

MERIDIAN & BIGREE RIVER.—*Appointment of Trustee.*—Division 4 of the Interstate Commerce Commission has approved the appointment of J. C. Floyd as successor trustee of this company's property during reorganization proceedings under section 77 of the Bankruptcy Act. Division 4 also approved a maximum compensation for Mr. Floyd of $175 per month.

At the same time Division 4 refused to ratify the appointment of D. M. Graham, Sr. as a co-trustee of the company, taking the position that one trustee was sufficient for a road the size of this one.

NORTHERN PACIFIC.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $5,700,000 of two per cent equipment trust certificates, maturing in 10 equal annual installments of $570,000 each on July 15 in each of the years from 1942 to 1951, inclusive. The issue has been sold at 99.274 to Laurence M. Marks & Co., making the average annual cost to the company approximately 2.14 per cent.

MISSISSIPPI CENTRAL.—*Securities.*—Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed its application of January 10, 1940, in Finance Docket No. 12735, asking for authority to issue (1) an instrument canceling and annuling an act of acceleration, (2) a supplemental indenture modifying the terms of $1,437,100 of outstanding first mortgage, five per cent gold bonds by extending to July 1, 1940, the maturity date of the unpaid interest coupons attached thereto and by changing the sinking fund provisions, and (3) a secured nonnegotiable promissory note for $1,157,596.

MISSOURI PACIFIC.—*Acquisition and Abandonment.*—This company has asked the Interstate Commerce Commission for authority to acquire the Collins-Chester branch of the Missouri-Illinois extending from Collins, Ill., to Chester, 10.7 miles. At the same time this company requests authority to abandon the northerly two miles of the branch extending south from Collins, Ill., after the acquisition has been completed. The Missouri Pacific will pay $35,300 in cash for the branch.

PITTSBURGH & WEST VIRGINIA.—*Trackage Rights.*—This company has asked the Interstate Commerce Commission to approve for a further period of 25 years the extension of a trackage agreement entered into on October 1, 1913, by which the applicant will continue to operate over a line of the Montour extending from Salida, Penna., to Coverdale, 3.3 miles.

PRATTSBURGH. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon as to interstate and foreign commerce its entire line extending from Prattsburgh, N. Y., to Kanona, approximately 11.4 miles.

UNION PACIFIC.—*Abandonment by the Laramie, North Park & Western.*—The Laramie, North Park & Western has asked the Interstate Commerce Commission for authority to abandon its entire line extending from Laramie, Wyo., to Coalmont, Colo., 111.4 miles. The petition states that increased motor carrier competition in the area served by the line has made its continued operation unprofitable.

WESTERN MARYLAND.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $1,900,000 of 2⅛ per cent equipment trust certificates, maturing in 10 equal annual installments of $190,000 on August 1 in each of the years from 1942 to 1951, inclusive. The issue has been sold at 100.38 to Salomon Brothers & Hutzler, Dick & Merle-Smith, and Stroud & Co., Inc., making the average annual cost to the company approximately 2.05 per cent.

WESTERN PACIFIC.—*Equipment Trust Certificates.*—Salomon Brothers & Hutzler have asked the Interstate Commerce Commission to standardize the form to be used by this company in inviting bids for $2,650,000 of equipment trust certificates to put it in line with the practice of several of the larger roads of the country.

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Importance of the Locomotive Boiler

"When all due respect has been paid to those who gage the effectiveness of a locomotive almost entirely by the amount of tractive force it exerts, the fact cannot be overlooked that, other things being equal, it is the boiler that counts. How often has it happened that an otherwise well designed engine having all the attributes necessary for success has in practice been found wanting, more particularly at times of stress, for no other reason than that of its being under-boilered, a bad steamer, or possessing some fault in the design of the boiler which stands in its way. Improvements in the design of the boiler can also be relied upon to augment the efficiency of a locomotive already ranking as satisfactory on general grounds . . ."

—The Railway Gazette

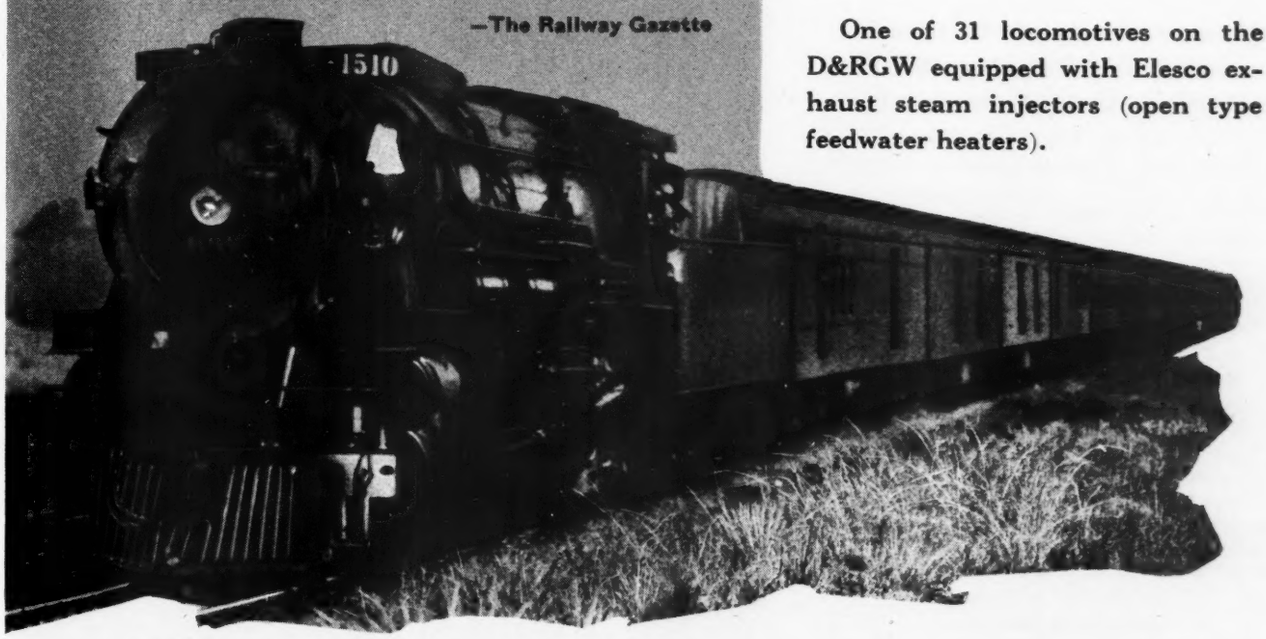
Elesco feedwater heating equipment, both the open and closed types, substantially increase the capacity and efficiency of locomotive boilers.

They are made by a company whose business is devoted entirely to the manufacture of heat transfer equipment.

Specify Elesco feedwater heater equipment for your new power . . . or use it for the existing power to increase capacity.

• •

One of 31 locomotives on the D&RGW equipped with Elesco exhaust steam injectors (open type feedwater heaters).



A-1427

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave. CHICAGO

Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

Details of the application were given in the *Railway Age* of July 5, page 44.

In a letter to the commission on July 2 the company pointed out that it had submitted the highest bid for the certificates but that it had been rejected by the reorganization trustees because of the conditions which were attached to the bid. It was the firm's contention that it had submitted its bid on the assumption that the funds would be used entirely for the purchase of equipment, while the call for bids pointed out that some of the funds might be used to pay taxes on equipment.

The banking firm asked the commission to standardize the bid forms so that all bidders would know what to bid on. It went on to say that the more modern form of trust "prevents such misapplication of funds and also brings the form of trust in conformity with the obvious intent of the invitation that the proceeds of the sale of the certificates will be applied only to the purchase of equipment." The firm further maintained that if roads are not required to conform to the competitive form "a careful purchaser has no protection. It becomes competition in which the most negligent and careless bidder will be awarded the contract even though others have bid higher on condition that the issuer meet the common standardized form."

The letter of Salomon Brothers & Hutzler also informed the commission that the standard form of asking for bids had been adopted in recent years by such roads as the Pennsylvania, New York Central, Southern Pacific, Union Pacific, Chesapeake & Ohio, Chicago & North Western, the Chicago, Milwaukee, St. Paul & Pacific, and the Chicago, Rock Island & Pacific.

The commission did nothing more than acknowledge the receipt of the letter, but permitted the road to award the certificates to Harriman, Ripley & Co., Inc., and Drexel & Co. at 98.839 for 1¼s.

On July 16 Division 4 made public its report and certificate in this case, revealing that the abovementioned award price would represent an annual cost to the railroad company of approximately 1.97 per cent.

"One other bid," said Division 4 in commenting on the Salomon Brothers' offer, "representing a somewhat lower effective rate, was received, but was rejected as it was not responsive to the invitation. It was made subject to terms and conditions, including certain revisions of the agreement and lease, constituting, the applicants considered, a new and different proposal rather than the acceptance of the offer contained in their invitation."

Dividends Declared

Cleveland, Cincinnati, Chicago & St. Louis.—Common, $5.00, semi-annually; 5 Per Cent Preferred, $1.25, quarterly, both payable July 31 to holders of record July 21.

Average Prices of Stocks and Bonds

	July 15	Last week	Last year
Average price of 20 representative railway stocks..	30.37	29.88	27.70
Average price of 20 representative railway bonds..	65.61	64.93	57.53

Railway Officers

EXECUTIVE

Charles A. Gill, general manager of the Reading and Central of New Jersey, with headquarters at Reading, Pa., was elected vice-president in charge of operation and maintenance at a special meeting of the board of directors on July 15, to succeed **R. W. Brown,** whose election to the presidency of the Lehigh Valley was reported in the *Railway Age* of July 12, page 57. Mr. Gill was born at Buffalo, N. Y., on January 19, 1884, and after receiving a public school education in Baltimore, Md., he entered the service of the Baltimore & Ohio at the Riverside shops in 1897, later becoming a machinist apprentice. Between 1901 and 1909 Mr. Gill served as a machinist on the Northern Central, foreman on the Chicago, Burlington & Quincy at Sheridan, Wyo., and foreman on the Northern Pacific at Livingston and Missoula, Mont., and Wallace, Idaho. In 1909 Mr. Gill again became affiliated with the Baltimore & Ohio as an enginehouse foreman at Washington, Ind. He then became master mechanic on the Cincinnati, Hamilton & Dayton, Dayton & Union (now both Baltimore & Ohio), and Chicago & Illinois Western in 1912. In 1913 Mr. Gill became general master mechanic of the Maryland district of the Baltimore & Ohio and four years later was advanced to superintendent motive power of the eastern lines. In 1931 Mr. Gill was loaned by the Baltimore & Ohio to the Russian government for the purpose of rehabilitating the motive power and railroad shops of that country. He remained in Russia for a year, during which time he virtually reorganized the rail transportation of that country. In 1932 Mr. Gill was appointed assistant chief of motive power of the Baltimore & Ohio, and special representative to the operating vice-president of the

Charles A. Gill

Reading. Later in 1932 he was appointed superintendent motive power of the Reading and the Central of New Jersey. Mr. Gill was appointed general manager of these roads in 1936, the position he held until his recent promotion. Mr. Gill is a member of the executive committee of the New York Railroad Club and served as president of the club during 1937-1938.

FINANCIAL, LEGAL AND ACCOUNTING

Elmer B. Collins has been appointed assistant western general counsel of the Union Pacific with headquarters at Omaha, Neb.

Carson L. Taylor, who has been promoted to general attorney and commerce counsel of the Chicago, Milwaukee, St. Paul & Pacific, as reported in the *Railway Age* of June 21, was born at Cedar Falls, Ia., on December 28, 1889, and was graduated from the University of Iowa College of Law in 1911. After graduation, he engaged in the general practice of law in Cedar Rapids, Ia.; served a term as assistant county attorney of Linn County; and, upon appointment by the governor, served as judge of the superior court of Cedar Rapids. On February 1, 1922, he became a member of the law firm of Hughes, Taylor & O'Brien, which handled the law business of the Milwaukee for the state of Iowa. On August 1, 1929, he was appointed assistant general solicitor of the Milwaukee with headquarters at Chicago, which position he held until September 1, 1929, when he was appointed commerce counsel at Chicago.

Carson L. Taylor

OPERATING

C. I. Morton, terminal trainmaster of the Seaboard Air Line, with headquarters at Atlanta, Ga., has been appointed trainmaster at Abbeville, S. C., succeeding **R. A. Walker,** who has been transferred to Atlanta. **C. H. Morris** has been appointed terminal trainmaster at Atlanta, succeeding Mr. Morton.

R. C. Randall, assistant to vice-president in charge of operations of the Erie at Cleveland, Ohio, has been appointed general manager of the eastern district, with headquarters at Jersey City, N. J., succeeding **F. W. Johnston,** who has been appointed assistant vice-president at Cleveland. The position of assistant to

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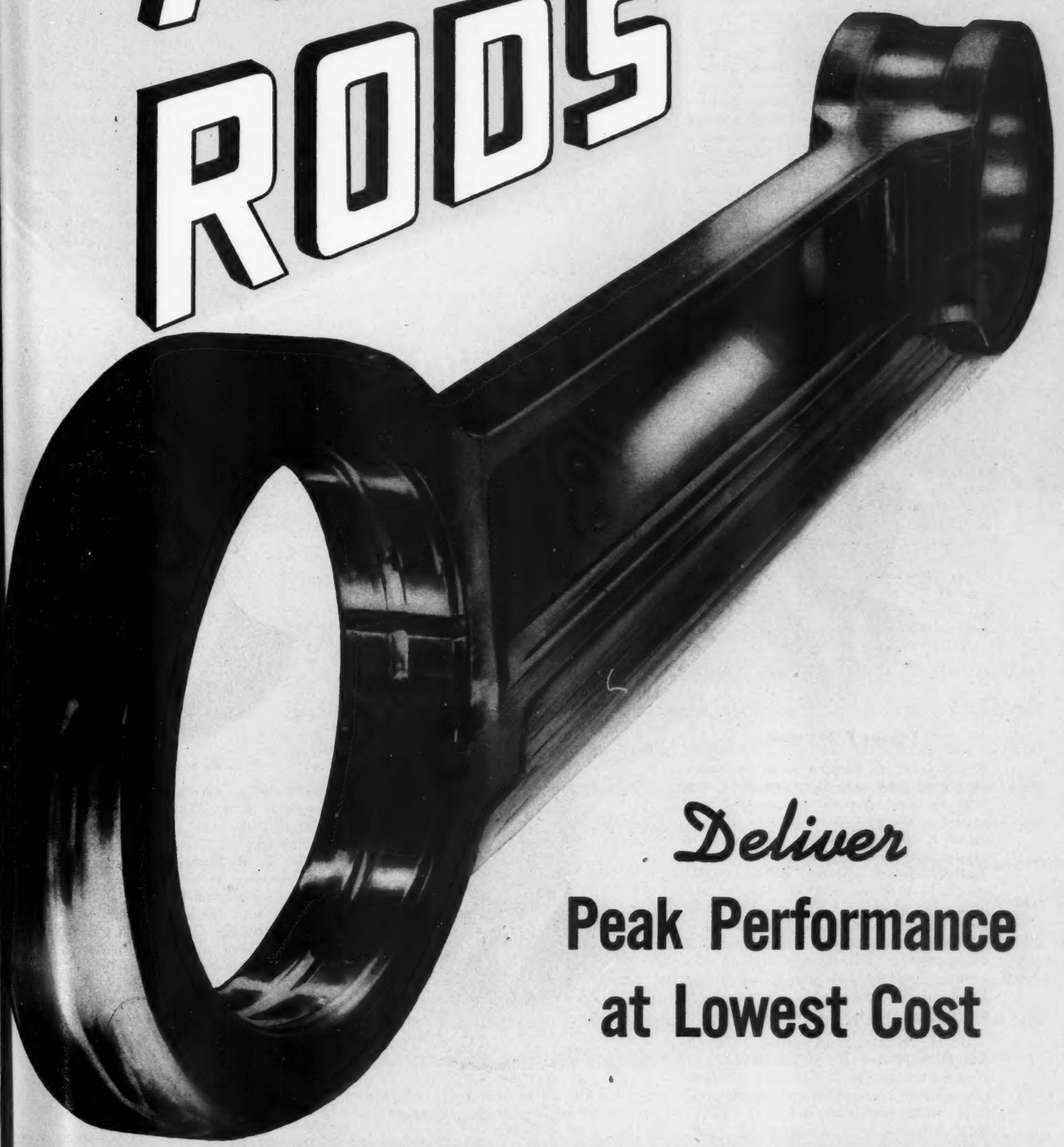
ALCO RODS



Deliver

Peak Performance at Lowest Cost

AMERICAN LOCOMOTIVE COMPANY

vice-president has been abolished. **G. C. White** has been appointed superintendent of the Buffalo and Rochester divisions, with headquarters at Buffalo, N. Y., succeeding **M. G. McInnes,** who has been appointed assistant general manager, Western district, at Youngstown, Ohio. Mr. McInnes succeeds **D. J. Maley,** who has been promoted to general manager of the Western district at Youngstown, succeeding **F. W. Rosser,** who has been appointed general agent, operating department, Cleveland. **A. W. Baker** division superintendent at Marion, Ohio, has been transferred to the Mahoning division. **H. V. Bordwell,** division superintendent at Huntington, Ind., has been transferred to the Kent division. **T. J. Murphy,** division superintendent at Youngstown, has been transferred to the Marion division.

James F. McDonald, who has been promoted to superintendent of the Elgin, Joliet & Eastern, with headquarters at Joliet, Ill., as reported in the *Railway Age* of July 12, was born at Cropsey, Ill., on December 27, 1885, and entered railway service in March, 1904, as a switchman on the Iowa Central. He held the same position on the Belt Railway Company of Chicago from 1905 to 1907 and on the

James F. McDonald

Elgin, Joliet & Eastern from the latter year until 1914. On February 18 of that year he was promoted to assistant yard master of the E. J. & E. at Gary, Ind., on April 1, 1916, to assistant general yardmaster, and on September 1, 1918, to general yardmaster. He held the latter position until February 1, 1930, when he was advanced to assistant train master of the Gary division, with headquarters at Gary. On March 25, 1936, he was promoted to trainmaster of this division and on November 1, 1940, was transferred to the Joliet division, the position he was holding at the time of his recent promotion.

G. H. Warfel, superintendent of the Kansas division of the Union Pacific with headquarters at Kansas City, Mo., has been promoted to personnel assistant on the president's staff with headquarters at Omaha, Neb., and has been succeeded by **J. F. Lewis,** assistant superintendent at Kansas City.

Thomas M. Milligan, who has been promoted to general superintendent of the Elgin, Joliet & Eastern, as reported in the *Railway Age* of July 12, was born at Marion, La., on February 16, 1886, and entered

Thomas M. Milligan

railway service on April 1, 1901, as a caller on this road. Later he served as a clerk, as a brakeman and as a conductor and in October, 1917, was promoted to assistant trainmaster. In February, 1927, he was promoted to trainmaster and on January 1, 1931, to superintendent at Joliet.

W. L. Hancock, who has been appointed superintendent of car service with jurisdiction over both the Kansas City Southern and the Louisiana & Arkansas lines, with headquarters at Shreveport, La., as reported in the *Railway Age* of July 12, entered the service of the Louisiana & Arkansas on November 24, 1912, as a check clerk at Stamps, Ark. Later he worked as a bill clerk at Stamps and Sibley, and in September, 1916, he became cashier in the local freight office at Stamps. In December, 1917, he was promoted to agent at this point and on August 1, 1922, was advanced to car accountant at Stamps. In 1929 his headquarters

W. L. Hancock

were transferred to Shreveport, where he retained the position of car accountant until his recent promotion.

John D. Brennan, whose retirement as superintendent of the San Joaquin division of the Southern Pacific, with headquarters at Bakersfield, Cal., was reported in the *Railway Age* of July 5, was born in California in October, 1876, and entered railway service as a fireman on the Central Pacific (now part of the Southern Pacific) in 1892. From 1894 to 1902 Mr. Brennan served as a brakeman, yardman and yardmaster on various railroads, including the Northern Pacific, the Oregon-Washington Railroad & Navigation Company and the Union Pacific, then becoming a brakeman on the Coast division of the Southern Pacific. For the following 23 years he worked successively on the Coast division of the Southern Pacific as a brakeman, conductor, district trainmaster, traveling conductor and trainmaster. He was advanced to assistant superintendent of the Shasta division at Dunsmuir, Cal., in 1925, where he remained until 1927 when he was transferred to the Western division at Oakland Pier, Cal. On January 1, 1931, Mr. Brennan was promoted to superintendent of the San Joaquin division, the position he held until his retirement, effective July 1.

P. S. Lewis, general superintendent of the Reading, with headquarters at Reading, Pa., has been elected general manager, to succeed **C. A. Gill,** whose election to vice-president in charge of operation and maintenance is noted elsewhere in

P. S. Lewis

these columns. **Arthur C. Tosh,** superintendent of transportation at Philadelphia, Pa., has been appointed general superintendent at Reading, succeeding Mr. Lewis. **L. R. Mumper,** assistant division superintendent at Reading, has been promoted to superintendent of the Shamokin division, with headquarters at Tamaqua, Pa., succeeding **Charles D. Barwick,** who has been appointed superintendent of transportation at Philadelphia, to succeed Mr. Tosh.

Mr. Lewis was born at Springfield, Ill., on May 10, 1889, and was graduated from Princeton University in 1911. He entered the service of the Reading in 1911 as a rodman in the chief engineer's department at Williamsport, Pa., and subsequently became an inspector at St. Clair, Pa., assistant supervisor at Harrisburg, Pa., and Pottstown, signal inspector at Philadelphia, and supervisor at Camden, N. J., and Olney, Philadelphia. In 1917 he was appointed passenger trainmaster at Reading. On September 20, 1917, Mr. Lewis

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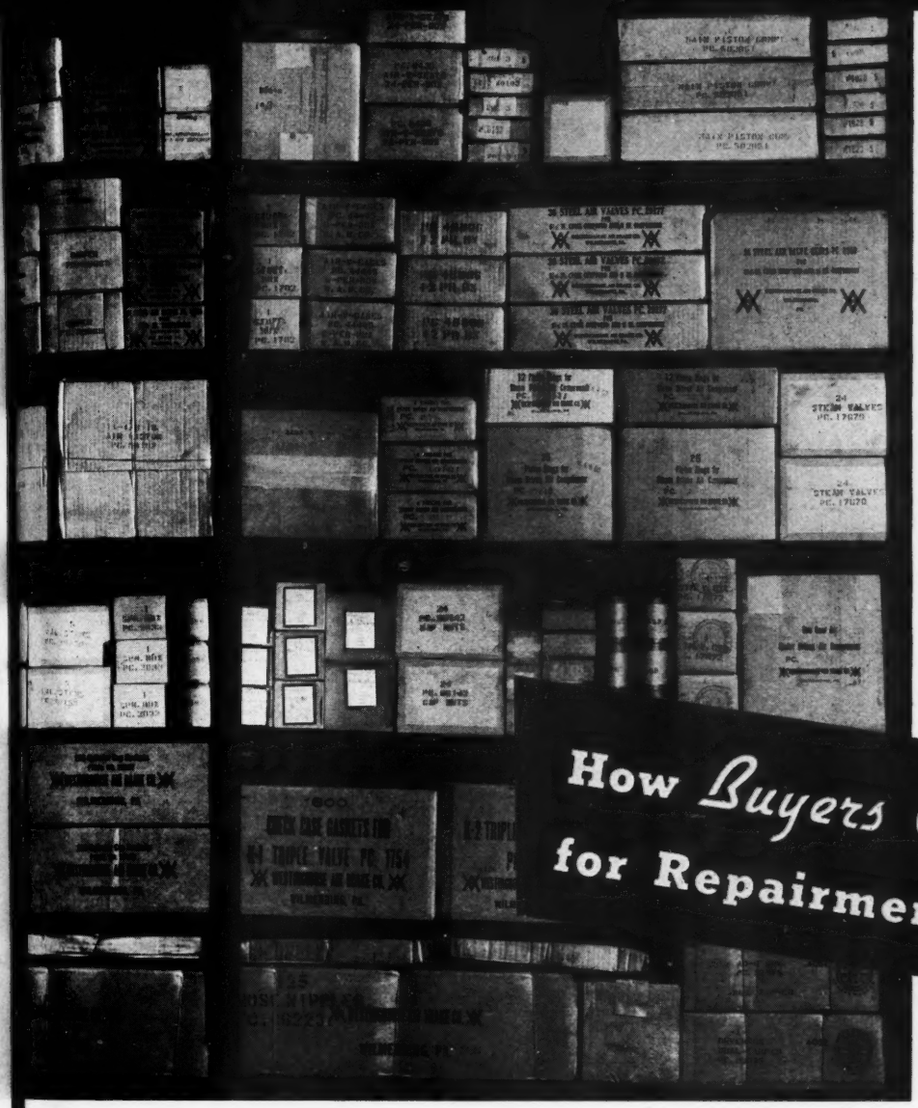


How *Buyers* Can Do a Good Turn for Repairmen, and *Themselves*

WHEN requisitions for air brake replacement parts come up the line, if you make sure that only Westinghouse standard trade-marked parts are purchased and carried in ample stock, two distinctive advantages will be realized ★ First—the men responsible for keeping air brake apparatus up to par in performance can always secure exact duplicates of original details with which to do a first class maintenance job, without additional machining or fitting ★ Second—since these standard parts are packaged in sturdy cartons, also trade-marked for identification, they can be conveniently stored and amply protected. Stock keeping is also simplified and handling costs reduced ★ Standard packaged repair parts on storeroom shelves insure true maintenance economy, and their exclusive use helps to perpetuate normal high grade functioning of complete devices.

WESTINGHOUSE AIR BRAKE COMPANY

WILMERDING, PENNSYLVANIA

was furloughed for military service with the 21st Engineers as first lieutenant, captain and major, successively. On Oc-

Arthur C. Tosh

tober 1, 1919, Mr. Lewis returned to the Reading as a trainmaster at Philadelphia, six months later becoming assistant superintendent of the Atlantic City railroad at Camden and in August, 1921, was advanced to superintendent of that road. Mr. Lewis was appointed superintendent of the New York division of the Reading on February 1, 1930, and on October 1, 1932, became assistant to vice-president at Philadelphia. On July 1, 1933, Mr. Lewis was appointed general superintendent at Reading, the position he held until his recent election as general manager.

Mr. Tosh was born at Oneida, Pa., on July 10, 1891, and entered the service of the Reading in September, 1909, as night clerk and operator at Catasauqua, Pa., becoming day operator there the following June. On September 27, 1911, Mr. Tosh became telegraph operator at Reading and a year later he was appointed extra agent at East Penn Junction, Pa. From November, 1912, to March, 1916, he was agent pro tem at Catasauqua and from March to June, 1916, he was agent and dispatcher there. He then served as inspector in the office of the general manager and inspector of transportation and on July 20, 1926, became superintendent

Charles D. Barwick

of highway transportation. On April 20, 1928, Mr. Tosh was appointed superintendent of the Reading Transportation Company and on March 20, 1930, became also superintendent of passenger transportation of the Reading. On March 16, 1934, he was appointed superintendent of the Shamokin division, becoming superintendent of transportation at Philadelphia on April 26, 1937, the position he held until his recent promotion.

Mr. Barwick was born on November 3, 1890, at Catawissa, Pa., and entered railroad service on April 21, 1906, as crew caller for the Philadelphia & Reading (now Reading) at Catawissa. On November 9, 1907, he became telegraph operator on the Shamokin division and on November 8, 1917, he was furloughed for military service. On June 1, 1919, Mr. Barwick returned to the Reading as telegraph operator and on February 1, 1926, became yardmaster at Catawissa; on January 1, 1930, assistant trainmaster at Gordon, Pa., and on August 16, 1932, yardmaster at Gordon. He was appointed assistant trainmaster at Tamaqua on January 1, 1934, and on May 1, 1934, he was transferred to Gordon. On February 15, 1936, Mr. Barwick was appointed trainmaster at Tamaqua and in August, 1937, he became superintendent of the Shamokin division at Tamaqua, the position he held until his recent promotion.

TRAFFIC

A. Brostedt, Asiatic traffic manager for the Canadian National at Hong Kong, China, has retired after 27 years of service with this system.

J. H. Mangold, traffic manager of the Elgin, Joliet & Eastern, with headquarters at Chicago has been elected vice-president in charge of traffic with the same headquarters and has been succeeded by **J. B. Davies,** assistant traffic manager. The office of assistant traffic manager has been abolished.

As a result of a number of changes in traffic department operations, **Marshall R. Bryan,** who was temporarily transferred on March 1 from the general agency of the Union Pacific at Milwaukee, Wisc., to general freight agent at Omaha, Neb., has returned to his former position in Milwaukee. **James R. MacAnally,** who had been chief clerk in the freight department at Chicago and succeeded Mr. Bryan at Milwaukee, is returning to the Chicago office as assistant general agent. **P. F. Echele,** who has been assistant to vice-president, traffic, with headquarters at Omaha since March 16, 1940, is promoted to general freight agent with headquarters in Omaha. **C. C. Beach,** who was appointed assistant to the general freight traffic manager with headquarters at Omaha on March 16, 1940, succeeds Mr. Echele as assistant to vice-president, traffic. **A. J. Stilling,** a bureau head in the traffic department, has been appointed assistant to the general freight traffic manager, succeeding Mr. Beach.

James Cameron, general freight agent of the Grand Trunk Western with headquarters at Chicago, has been promoted to assistant freight traffic manager with the same headquarters.

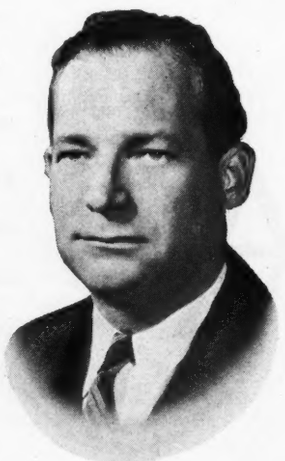
Mr. Cameron was born in Perthshire, Scotland, and in September, 1891, became a messenger in the transportation department of the Grand Trunk at Hamil-

James Cameron

ton, Ont. In the next year he was transferred to the freight traffic department. Then followed moves to Niagara Falls, N. Y., Black Rock, and Montreal, Que. and his subsequent transfer to Chicago in February, 1908. Various promotions followed including an appointment as chief of the tariff bureau which lead to the post of general freight agent which position he has occupied since November, 1927.

S. C. Chiles, general freight agent of the Southern Pacific Steamship Lines, the service of which was discontinued when the U. S. Maritime Commission took over all its ships, has been appointed freight traffic manager of the Southern Pacific with headquarters at New York.

R. S. Hirsch, who has been promoted to eastern general freight agent of the Atchison, Topeka & Santa Fe, as reported in the *Railway Age* of July 5, was born at Long Beach, Cal., and started his railroad career as a file clerk in the general freight office of the Santa Fe at Los Angeles in September, 1915. During the World War he served with the U. S. Navy and returned to the Santa Fe in August, 1919.



R. S. Hirsch

In March, 1922, he was appointed city freight agent at Fresno, Calif., and in May of the same year he was promoted to trav-

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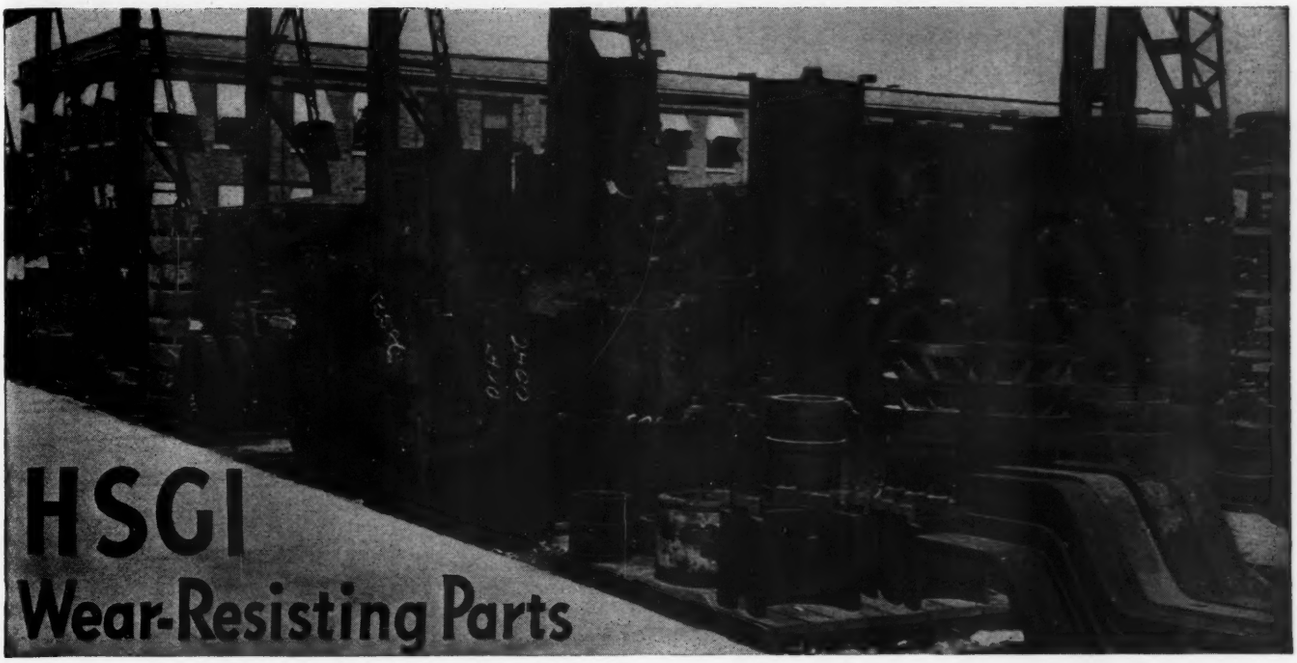

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HUNT-SPILLER *Air Furnace* GUN IRON

eling freight and passenger agent at Sacramento, Calif. Later he became general agent for the Sacramento territory. In September, 1936, Mr. Hirsch was appointed division freight agent at Los Angeles, and on April 1, 1940, he was promoted to assistant general freight agent at Kansas City, Mo., the position he was holding at the time of his present promotion.

Southworth Lancaster, who has been promoted to general freight agent, New York Central system (Boston & Albany

Southworth Lancaster

district), with headquarters at Boston, Mass., entered the service of that road on June 28, 1915, as clerk in the freight traffic department at Boston. On September 1, 1923, he was appointed foreign freight agent at Boston and on April 1, 1928, became division freight agent at Worcester, Mass. Mr. Lancaster was appointed assistant general freight agent at Boston in January, 1941, the position he held until his recent promotion.

Edwin Page Gardiner, who has been promoted to assistant freight traffic manager, New York Central system (Boston

Edwin Page Gardiner

& Albany district), with headquarters at Boston, Mass., was born at Chelsea, Mass., on January 31, 1875. Mr. Gardiner entered railroad service on July 6, 1895, in the office of the commercial agent, Boston & Albany (New York Central system), at Boston. On January 1, 1903, he became agent for Merchants Despatch Transportation Company at Providence, R. I., and on February 2, 1907, he was appointed commercial agent, New York Central Fast Freight Lines, at Boston. On September 1, 1913, Mr. Gardiner was appointed assistant general freight agent of the Boston & Albany and on August 24, 1926, he was promoted to general freight agent. He became assistant to freight traffic manager at Boston last January, the position he held until his recent promotion to assistant freight traffic manager, effective July 1.

Robert G. Henderson, who has been promoted to freight traffic manager, New York Central system (Boston & Albany district), with headquarters at Boston, Mass., was born at Salem, Mass., on January 25, 1889. Mr. Henderson was graduated from Harvard College in 1910 with an A.B. degree and entered railroad service in 1911 in the operating department of the Boston & Albany (New York Central system). From 1915 to May, 1917, he served as chief clerk to general superintendent of that road and from May, 1917, to June, 1919, he was Captain and Major, 14th Rail-

Robert G. Henderson

way Engineers. Mr. Henderson was supervisor mail and express for the Boston & Albany from 1920 to 1922 and was appointed assistant general freight agent in 1926. He became general freight agent at Boston last January, the position he held until his recent promotion to freight traffic manager, effective July 1.

Richard Van Ummersen, freight traffic manager, New York Central system (Boston & Albany district), with headquarters at Boston, Mass., who retired on July 1, after more than 49 years of service with the company, was born on December 14, 1875, at Boston. Mr. Van Ummersen entered railroad service on July 26, 1891, with the Boston & Albany (New York Central system), holding various positions in the ticket auditor's office until February, 1896. From the latter date until June, 1900, he served as claim, tariff and rate clerk in the general freight office, then becoming chief clerk. In June, 1906, Mr. Van Ummersen was appointed division freight agent at Worcester, Mass., becoming assistant general freight agent at Boston in November, 1907. In June, 1911, he was promoted to general freight agent and in March, 1920,

Richard Van Ummersen

he became freight traffic manager, the position he held until his retirement.

ENGINEERING AND SIGNALING

Robert Waller Marye, whose appointment as assistant chief engineer of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of July 12, was born at Ashland, Va., on December 5, 1891. Mr. Marye attended Randolph Macon College, receiving his B.A. degree in 1912. He entered railroad service on December 5, 1912, with the Atlantic Coast Line, serving successively as rodman, inspector and transitman in the construction department. From May 25, 1915, to October 10, 1916, Mr. Marye served successively as rodman, instrumentman and draftsman in the valuation department and on the latter date he became resident engineer in the construction department. From August, 1917, to July, 1919, he served with the United States Army, returning to the Atlantic Coast Line on the latter date as senior assistant engineer in the construction and maintenance of way departmets. He served successively as division engineer, assistant engineer of construction, field assistant to chief engineer and assistant to chief engineer from December 1, 1925, to January 1, 1935. On the latter date he was appointed principal assistant engineer, the position he held until his recent promotion to assistant chief engineer.

Robert Lawrence Groover, whose promotion to principal assistant engineer of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of July 12, was born on November 7, 1891, in Brooks county, Ga., near Quitman. Mr. Groover received the degree of bachelor of science in civil engineering from Alabama Polytechnic Institute, Auburn, Ala., in 1914 and entered railroad service in September of that year with the Atlantic Coast Line. He served with that road as draftsman and inspector, maintenance of way office at Rocky Mount, N. C., until March, 1916, when he became draftsman for the Central of Georgia at

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TIMKEN Reports on First 6 Months of 1941

In accordance with our practice of regularly publicizing the progress of Timken Roller Bearings on American railroads we respectfully present the following list of Timken Bearing Equipped locomotives and cars ordered during the first six months of 1941.

STEAM LOCOMOTIVES

Railroad	No. of Locos.	Type	Bearing Locations
Alaska Railroad	1	4-8-2	Eng. Truck, Trailer
Canadian National	35	4-8-4	Eng. Truck, Trailer
Chesapeake & Ohio	8	4-6-4	All Axles and Tenders
Chesapeake & Ohio	2	4-8-4	Eng. Truck
C. B. & Q.	10	2-10-2	Eng. Truck
C. R. I. & P.	3	4-8-2	Drivers, Trailers
C. R. I. & P.	2	4-8-2	Recipro. Parts
Clinchfield	8	4-6-6-4	All Axles
Grand Trunk Western	25	4-8-4	Eng. Truck, Trailers and Tenders
Missouri Pacific	5	4-6-2	Drivers
Missouri Pacific	3	4-8-4	All Axles
Missouri Pacific	1	4-8-2	Eng. Truck
Missouri Pacific	5	4-6-2	All Axles
Missouri Pacific	8	4-8-4	All Axles
Nash. Chatt. & St. Louis	10	4-8-4	All Axles and Tenders
New York Central	15	4-8-2	Trailers and Recipro. Parts
Norfolk & Western	5	4-8-4	All Axles and Tenders, Crank Pins and Rec. Parts
Norfolk & Western	6	2-8-8-2	All Axles
Norfolk & Western	10	2-8-8-2	All Axles
Pennsylvania	10	16-whl.	All Axles (tender)
Pennsylvania	7	16-whl.	All Axles (tender)
St. Louis Southwestern	7	4-8-2	All Axles
Union Pacific	20	4-8-8-4	Drivers and Tend.
Wheeling & Lake Erie	10	2-8-4	All Axles and Tenders

DIESEL-ELECTRIC AND ELECTRIC LOCOMOTIVES

Railroad	No. of Locos.	Type	Bearing Locations
A. T. & S. F.	2	Diesel-Electric 12-whl.	All Axles
American Loco. Co.	10	Diesel-Electric 12-whl.	All Axles
Chicago & Northwestern	5	Diesel-Electric 12-whl.	All Axles
Milwaukee Road	1	Diesel-Electric 12-whl.	All Axles
New York, N. H. & H.	10	Diesel-Electric 12-whl.	All Axles
Pennsylvania	15	Electric 4-6-6-4	All Axles
Southern Ry.	4	Diesel-Electric 12-whl.	All Axles
Wheeling & Lake Erie	2	Diesel-Electric 8-whl.	All Axles

PASSENGER EQUIPMENT

Railroad	No. of Cars	Type	Bearing Locations
A. T. & S. F.	22	8-whl.	All Axles
A. T. & S. F.	37	8-whl.	All Axles
C. R. I. & P.	7	8-whl.	All Axles
C. M. St. P. & P.	20	8-whl.	All Axles
Denver Rio Grande & W.	4	8-whl.	All Axles
Missouri Pacific	4	12-whl.	All Axles
Missouri Pacific	1	8-whl.	All Axles
New York Central	32	8-whl.	All Axles
New York Central	25	8-whl.	All Axles
New York Central	10	8-whl.	All Axles
Pennsylvania	40	8-whl.	All Axles
Pennsylvania	3	12-whl.	All Axles
Pennsylvania	12	8-whl.	All Axles
Pennsylvania	75	8-whl.	All Axles
Pullman Co.	119	8-whl.	All Axles
Union Pacific	30	8-whl.	All Axles
Union Pacific	40	12-whl.	All Axles

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Savannah, Ga. In November, 1916, he returned to the Atlantic Coast Line at Wilmington and served until September, 1918, as draftsman, computer and pilot engineer in the valuation department. On the latter date he became assistant engineer in the maintenance of way department at Rocky Mount and from June, 1920, to November, 1924, he served as assistant engineer in the chief engineer's office at Wilmington, N. C., on valuation reports, in the bridge engineer's office and with the office engineer on track plans and design. From November, 1924, to October, 1929, Mr. Groover was office engineer in the chief engineer's office at Wilmington and on the latter date he became engineer of design, the position he held until his recent promotion.

MECHANICAL

Warren P. Hartman, who has been promoted to mechanical superintendent of the Western district of the Atchison, Topeka & Santa Fe to replace J. M. Nicholson, was born at Longmont, Colo., on February 1, 1891, and was graduated from the University of Colorado in 1914. In the same year he entered the employ of the Santa Fe as a special apprentice at La Junta, Colo., and after serving as apprentice instructor, erecting gang foreman at Raton, N. M., general erecting foreman at La Junta, and roundhouse foreman at Raton

Warren P. Hartman

and Albuquerque, was promoted to general roundhouse foreman at Albuquerque on July 10, 1924. He held this position until December 1, 1930, when he was promoted to fuel supervisor at Amarillo, Tex. On February 1, 1934, he was promoted to master mechanic of the Slaton division at Slaton, Tex., and on July 6, 1934, was transferred to the Kansas City and Eastern divisions at Argentine, Kan., the position he was holding at the time of his recent promotion.

Kenneth H. Carpenter, assistant superintendent of the car department of the Delaware, Lackawanna & Western, has been promoted to superintendent of the car department, with headquarters as before at Scranton, Pa., succeeding the late **Paul H. Mitchell,** whose death on June 14 was reported in the *Railway Age* of June 21. Mr. Carpenter was born at Fontanelle, Neb., on June 25, 1898, and entered railroad service in 1920 as carman with the Union

Kenneth H. Carpenter

Pacific at Omaha, Neb., in which capacity he served until 1922, when he went with the Missouri Pacific in a similar capacity. He served with the latter road until 1939, becoming lead inspector in 1924; assistant car foreman in 1926; car foreman in 1928; traveling car inspector in 1929 and general car foreman in 1933. Mr. Carpenter went with the Delaware, Lackawanna & Western in 1939, as assistant superintendent of the car department at Scranton, the position he held until his recent promotion.

James M. Nicholson, who has been promoted to general assistant, mechanical department, of the Atchison, Topeka & Santa Fe, as reported in the *Railway Age* of July 5, was born at Scranton, Kan., on February 24, 1888, and was graduated from Kansas State College in 1912. In the following year he entered the test department of the Santa Fe and in May, 1916, became laboratory foreman. He served as fuel supervisor at Ft. Madison, Iowa, from August, 1916, to May, 1921, when he was promoted to assistant engineer of tests at Topeka, Kan. In January, 1923, he was promoted to system fuel conservation engineer at Topeka and in November, 1930, was

James M. Nicholson

advanced to master mechanic at Slaton, Tex. In February, 1934, he was transferred to Argentine, Kan., and on July 1, 1937, to Chicago. He was promoted to mechanical superintendent of the Western district, Eastern lines, with headquarters at Topeka on July 20, 1937, which position he held until his recent advancement.

W. G. Reid, master mechanic of the Rio Grande division of the Southern Pacific with headquarters at El Paso, Tex., has been promoted to assistant superintendent of motive power with the same headquarters. Mr. Reid entered the employ of the Southern Pacific in 1903 as a machinist apprentice at Tucson, Ariz., and in 1907-8 was a machinist on the Southern Pacific of Mexico at Guaymas. From 1908 to 1913 he served as a machinist on the Arizona Eastern at Globe, Ariz. In the latter year he was promoted to foreman and later to general foreman on this road. In 1918 he was promoted to trainmaster at Globe and a short time later to master me-

W. G. Reid

chanic at Phoenix, which position he held until 1924, when he was transferred to El Paso.

PURCHASES AND STORES

R. A. Evans has been appointed assistant purchasing agent of the Nevada Northern with headquarters at East Ely, Nev., to succeed **H. A. Davidson,** deceased.

R. I. Renfrew, district storekeeper of the New York Central, with headquarters at Beech Grove, Ind., has been promoted to assistant general storekeeper, with the same headquarters, and has been succeeded by **C. L. Clapp,** signal storekeeper of the Leota street shops in Indianapolis. **J. W. Patterson,** terminal storekeeper of the Riverside shops at Cincinnati, Ohio, replaces Mr. Clapp and **W. A. Miller,** local storekeeper at East St. Louis, Ill., succeeds Mr. Patterson.

OBITUARY

James B. Sheean, who resigned as general counsel of the Chicago & North Western on July 1, 1924, after 27 years of service, died at Galena, Ill., on July 14.

Owen T. Cull, assistant freight traffic manager of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, died in that city on July 16 after a brief illness.